PB89-204788

Superfund Record of Decision (EPA Region 6)
French Limited, Texas
(First Remedial Action), March 1988

(U.S.) Environmental Protection Agency, Washington, DC

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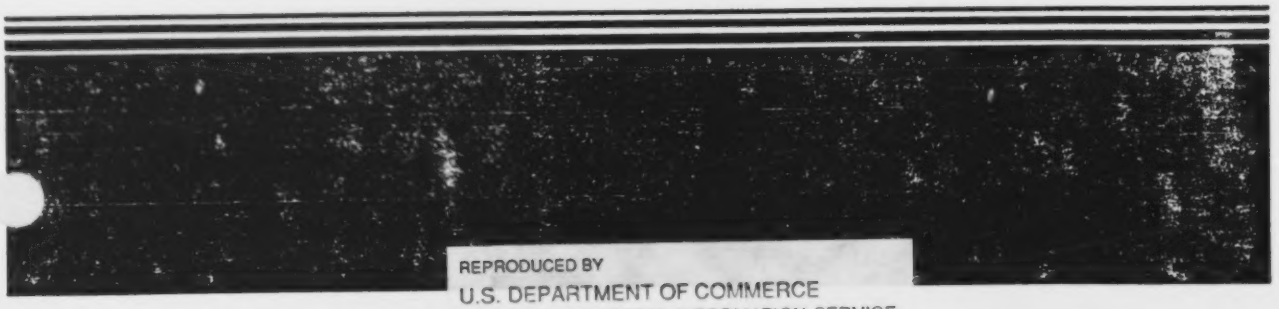
EPA

Superfund Record of Decision:

French Limited, TX



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15. Supplementary Notes

16. Abstract (Limit: 200 words)

The French Limited, Inc. (FLI) site, a 22.5-acre tract of land, is located in Harris County, Texas. The site is situated one mile east of the San Jacinto River. The entire site is within the 100-year flood plain of the River and has flooded frequently in the past. Between 1966 and 1972, approximately 300,000 yd^3 of industrial wastes from area petrochemical companies were deposited in an unlined 7.3-acre pit, formerly an active sand pit. The disposal site operated under a temporary permit issued by the Texas Water Quality Board. In 1973, the permit was revoked after extensive public hearings and legal proceedings, and FLI was ordered to cease operations. As part of the settlement, FLI was ordered to remove all the structures, tankage, and process equipment. The tract of land was ultimately deeded to the State. During a flood event, the dike surrounding the waste pit was overtopped and breached, and contaminated sludges were discharged into an adjacent slough. In 1982, the U.S. EPA conducted an Immediate Removal Action (IRA). The dike was repaired and the majority of discharged sludges were pumped back into the pit. The floating portion of the sludges was removed and disposed of in July of 1983 during another U.S. EPA IRA. Ground water has been heavily contaminated by the leaching action of organic wastes deposited in the pit. Sludge and soil from the waste pit and adjacent slough include the following primary contaminants: PCBs, PCP, organics, VOCs, metals, and arsenic.

(See Attached Sheet)

17. Document Analysis a. Descriptors

Record of Decision
French Limited, TX
First Remedial Action - Final
Contaminated Media: gw, sludge, soil
Key Contaminants: metals (arsenic), organics (PCP), VOCs, (PCBs)

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

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EPA/ROD/R06-88/030
Trench Limited, TX
First Remedial Action - Final

16. ABSTRACT (continued)

The selected remedial action for this site includes: in-situ biodegradation of sludges and contaminated soils with aeration of the lagoon waste for degradation enhancement; stabilization of residues followed by onsite disposal; ground water pump and treatment; surface water discharge to the San Jacinto River with treatment, as necessary; backfilling of the lagoon to grade and contour; and ground water monitoring. The estimated present worth for this remedial action is $47,000,000.

ATTENTION

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Declaration for the Record of Decision

Site Name and Location

French Limited is located on U.S. Highway 90 in Crosby, Texas.

Statement of Purpose

This document represents the selected remedial action for the French Limited site, developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and the Naitonal Contingency Plan (40 CFR Part 300).

Statement of Bacis

This decision is based on the administrative record for the French Limited site. The attached index identifies the items which comprise the administrative record upon which the selection of the remedial acton is based.

Description of Selected Remedy

The primary component of the selected remedy for French Limited is in situ biological treatment of the sludges and contaminated soils in the lagoon onsite. The concentration of contaminants in these sludges and soils will be reduced to at least the levels specified in Table 3 of the "Summary of Remedial Alternatives" attached herein.

The contaminated groundwater will be recovered and treated during implementation of the in situ biological treatment process. Groundwater recovery and treatment will continue until modeling shows that a reduction in the concentration of volatile organics to a level which attains the 10^{-6} Human Health Criteria can be achieved through natural attenuation in 10 years or less.

Surface water from the lagoon will be treated to at least the Texas surface water quality standards for the San Jacinto River Segment 1001.

Residues generated from the treatment process will be stabilized to prevent leachate generation and used as backfill in the lagoon. The remaining lagoon volume will be backfilled with clean soil. The surface will then be graded to promote drainage away from the site.

The final component of the remedy involves post-closure monitoring of the upper and lower aquifers for a period of 30 years. Post-closure monitoring is required under the Resource Conservation and Recovery Act.

Declaration

The selected remedy is protective of human health and the environment, attains Federal and State requirements that are applicable, or relevant and appropriate, and is cost-effective. This remedy satisfies the statutory preference for remedies that employ treatment technologies which permanently and significantly reduce the toxicity, mobility, or volume of hazardous substances.

The State of Texas has been consulted and agrees with the approved remedy.

March 24, 1988
Date

Robert E. Layton Jr., P.E.
Regional Administrator

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Summary of Remedial Alternative Selection

French Limited Inc., Site
Crosby, Texas

SITE LOCATION AND DESCRIPTION

The French Limited Inc., site is a 22.5-acre tract of land located in northeast Harris County, approximately 2 miles south, southwest of Crosby, Texas (Figure 1). The site, shown on Figure 2, is triangular in shape and bordered on the northwest by U.S. Highway 90 and on the south by Gulf Pump Road. The Riverdale Subdivision, immediately southwest of the site, is the only residential development in close proximity to the site. The site lies approximately 10 feet above mean sea level and is about one mile east of the San Jacinto River. The entire site is within the 100 year floodplain of the San Jacinto River and has flooded frequently in the past. Two aquifers are present within the 155 foot depth investigated during the Remedial Investigation.

The site consists of a 7.3-acre lagoon where wastes were disposed. The wastes have been classified into four media categories:

- o Sludges/sediments;
- o Contaminated soils (surface and underlying);
- o Contaminated surface waters; and
- o Contaminated groundwater.

The approximate volumes of waste at these areas are listed in Table 1.

SITE HISTORY

Between 1966 and 1972, approximately 300,000 cubic yards of industrial wastes from area petrochemical companies were disposed at the French Limited site. The majority of the waste received was deposited in an unlined pit, formerly an active sand pit. However, some wastes were stored upon arrival in several large tanks and later burned in open pits. The French Limited disposal site was operated under a temporary permit issued by the Texas Water Quality Board. In 1973, the permit was revoked after extensive public hearings and legal proceedings, and French Limited was ordered to cease operations. As part of the settlement, French Limited was ordered to remove all of the site structures, tankage, and process equipment, and the tract of land upon which the disposal operations occurred was ultimately deeded to the State.

During a flood event, the dike surrounding the waste pit was overtopped and breached, and contaminated sludges were discharged into an adjacent slough. An Immediate Removal Action by the U.S. Environmental Protection

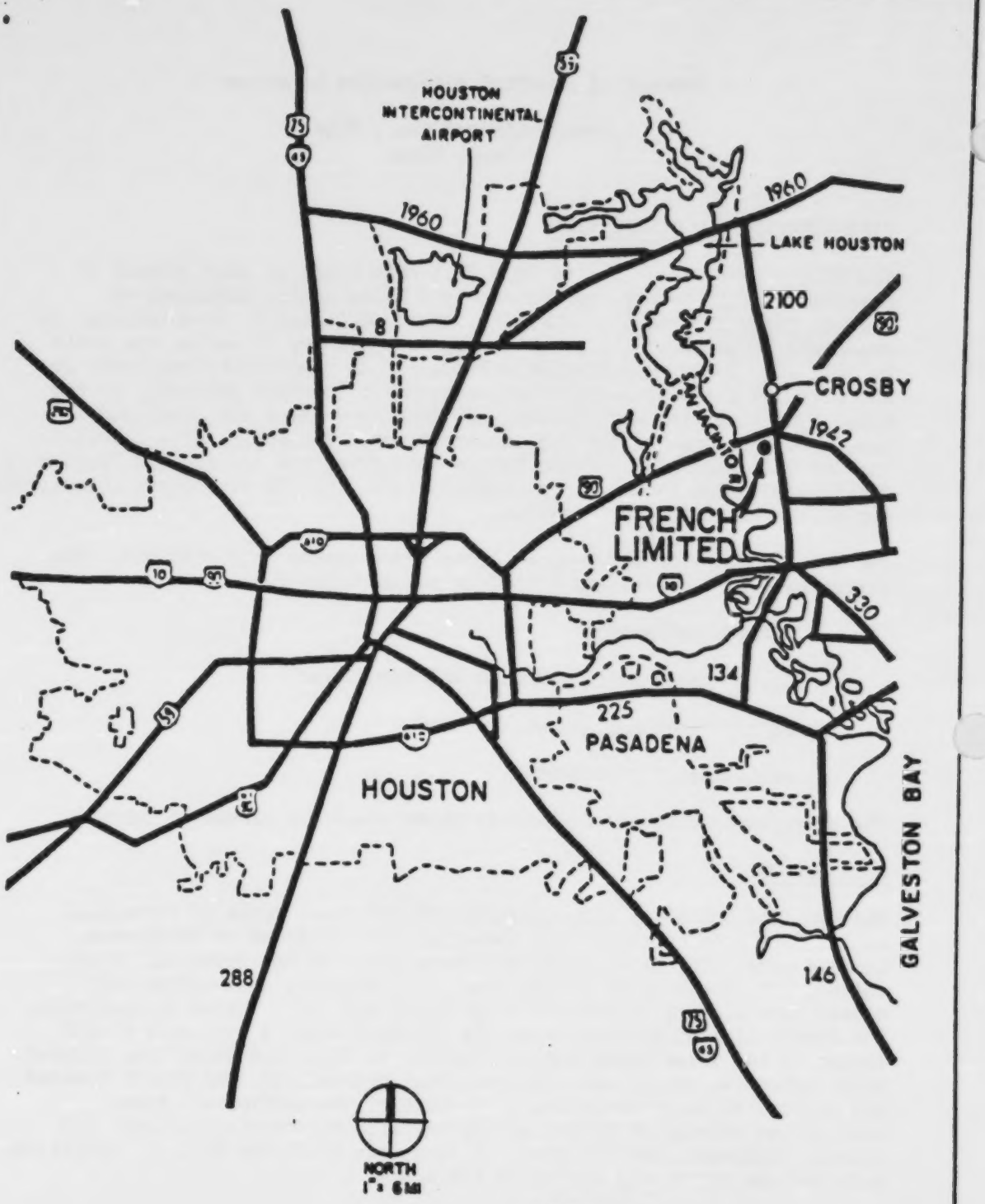

FIGURE NO. 1
LOCATION MAP
FRENCH LIMITED SITE

Prepared for:
TEXAS WATER COMMISSION

Date: MARCH 1987 Project no: 1633-20-001-300

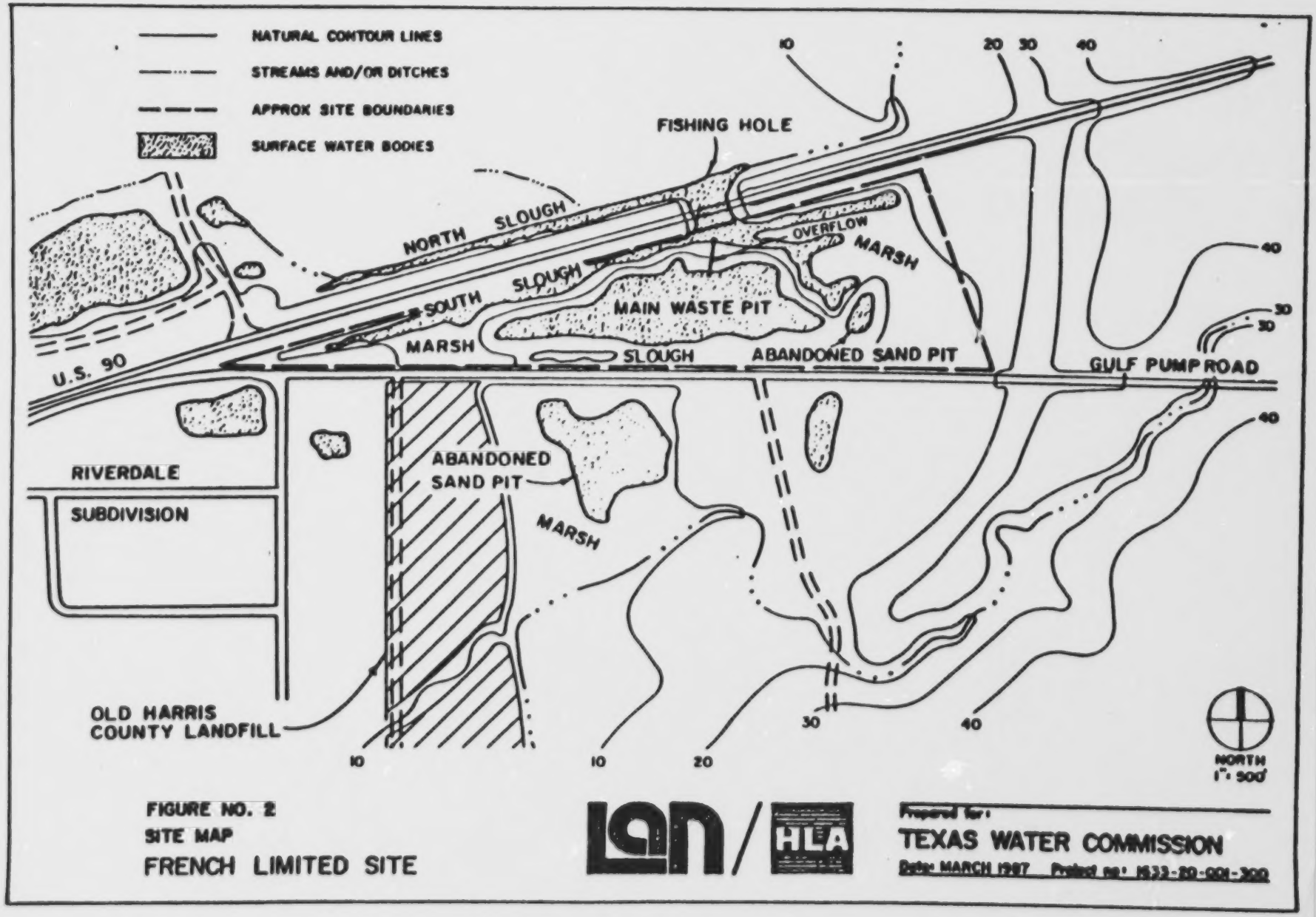

FIGURE NO. 2
SITE MAP
FRENCH LIMITED SITE

LAN / HLA

Prepared for:
TEXAS WATER COMMISSION
Date: MARCH 1987 Project no: 1633-20-001-300

TABLE 1

APPROXIMATE WASTE VOLUMES
FRENCH LIMITED SITE

Medium/Area	Waste Volumes In Situ	
	Non-PCB[1]	PCB[2]
Sludges/Sediments (Cu. Yds.)		
Main Waste Pit	59,800	8,000
South Slough	2,300	-
Totals	62,100	8,000
Contaminated Soils (Cu. Yds.)		
Main Waste Pit (Subgrade & Dike)	73,000	-
West Area	2,000	1,900
South Slough Area	2,300	-
North Area	300	-
Totals	77,600	1,900
Contamined Surface Water (million gallons)		
Main Waste Pit	24.0	
South Slough	2.0	
Total	26.0	

1. Sludge/sediments in this column contain less than 50 ppm PCB.

2. Sludge/sediments in this column contain greater than 50 ppm PCB. Contaminated soils in this column greater than 50 ppm PCB. Note: While the quantity of sludge/sediments containing >50 ppm PCB can be estimated, it is not practical/possible to separate the PCB material from the remaining sludge/sediments. Therefore, for the purpose of this report, all of the sludge/sediments will be considered PCB sludge/sediments.

Agency in 1982 repaired the dike and pumped the majority of discharged sludges back into the pit. The floating portion of the sludges was removed and disposed of by the USEPA during another Immediate Removal Action in July 1983.

In January 1983, pursuant to a Cooperative Agreement with the Environmental Protection Agency, the Texas Department of Water Resources (now the Texas Water Commission) contracted with Lockwood, Andrews & Newnam, Inc. (LAN), to conduct a Remedial Investigation (RI) at the site. The initial phase of the RI was performed in April 1983 to establish a data base for site characterization and evaluation. A supplemental phase was performed in November 1983 to refine and expand the original data base. The French Limited Task Group (a group of Potentially Responsible Parties) conducted a "1986 Field Investigation" and "Supplemental Remedial Investigation Report" pursuant to an Administrative Order and the results were utilized in the Feasibility Study and selection of the remedy.

CURRENT SITE STATUS

Table 2 summarizes the reports which were used to describe the nature and extent of contamination. Pathways and receptors are described in detail in these reports.

The primary areas found to be contaminated at the site are:

- The main waste pit; and
- The slough immediately north and west of the main waste pit.

The contamination is broken down as waste or sludges and underlying contaminated soils. Table 1 shows the estimated waste volumes for the site and Figure 3 depicts areas of contamination on the site.

Sludges onsite are composed of a wide variety of organics, metals, and up to 616 ppm of polychlorinated biphenyls (PCBs). There is little data showing PCB contamination with depth. Data indicate that 12 percent (by volume) of the sludges contain PCB concentrations greater than 50 ppm. However, the PCB contaminated material cannot be practically separated from the non-PCB material. Other chemical characteristics of the sludges include:

- Volatile organics up to 400 ppm for a single contaminant;
- Pentachlorophenol up to 750 ppm;
- Numerous base/neutral organics at levels up to 5,000 ppm;
- Pesticides up to 20 ppm; and
- Metals up to 5000 ppm for a single metal.

TABLE 2

CHRONOLOGY OF SAMPLING EVENTS/INVESTIGATION

Date	Agency/Firm	Purpose
September 1979	EPA	Flood Impact Assessment
August 1981	EPA	Response Action
September 1981	Texas Department of Water Resources (TDWR) (District 7)	Water Well Testing
January 1982	Rollins Environmental	Cleanup Proposal
April 1983	Lockwood, Andrews and Newnam (LAN)	Remedial Investigation (RI)
November 1983	Lockwood, Andrews and Newnam (LAN)	Supplemental RI
February 1984	Resource Engineering, Inc. (REI)	Supplemental Investigatin
April 1985	Resource Engineering, Inc. (REI)	Remedial Investigation (RI)
July 1986	Resource Engineering Inc. (REI) & Applied Hydrology Associates, Inc. (AHA)	Field Investigation
December 1987	ERT	Biodegration Study

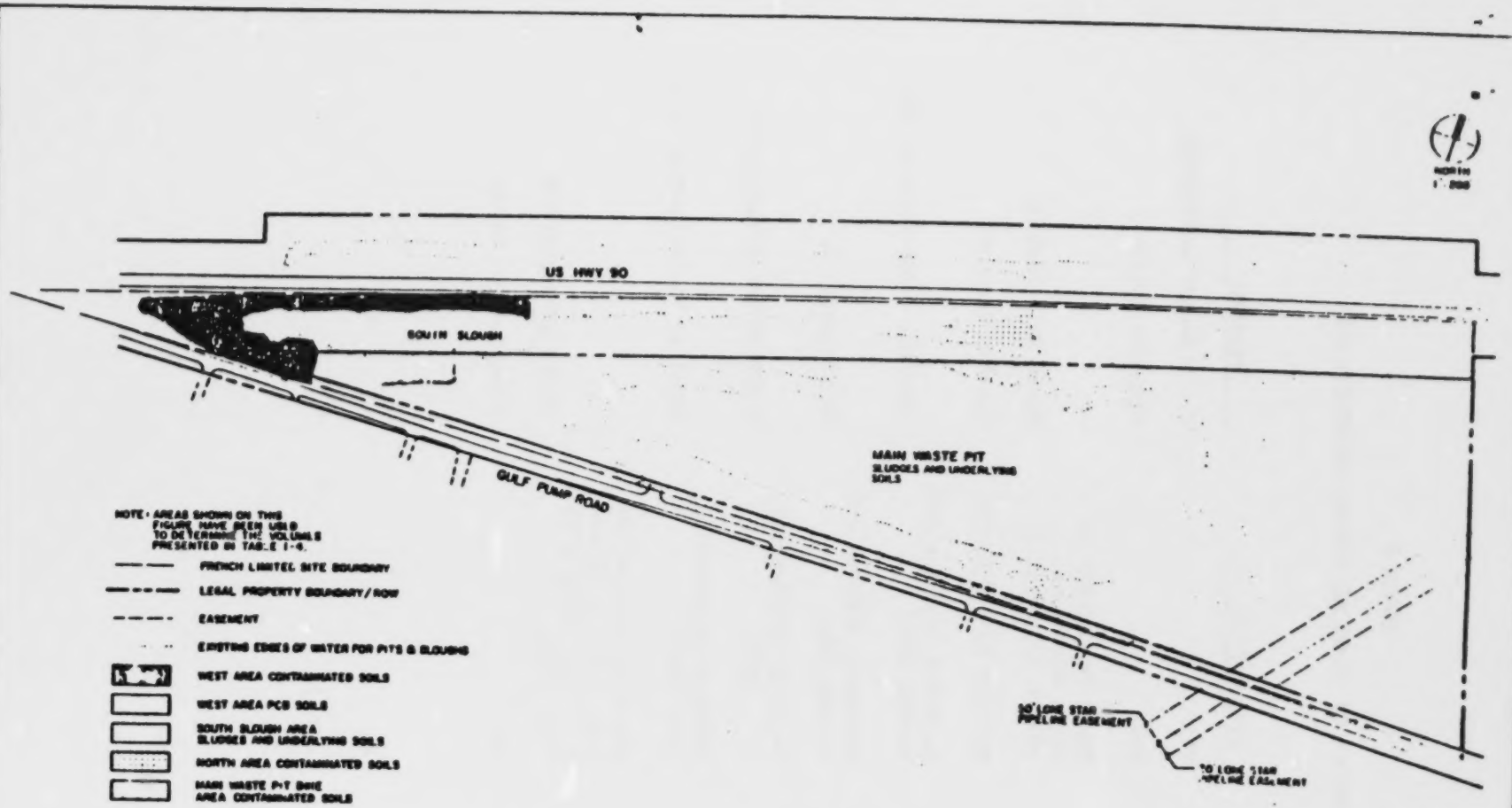

FIGURE NO. 3
AREAS OF CONTAMINATION
FRENCH LIMITED SITE

LAN/HLA

Prepared for:
TEXAS WATER COMMISSION
Date: MARCH 1987

The underlying soils contain many of the same contaminants found in the sludges, but generally at much lower levels. No PCBs were detected in any of the underlying soils.

Surface waters of the main waste pit and the south slough (refer to Figure 2) for the most part, meet the Surface Water Quality Criteria limits, and therefore would require minimal treatment prior to discharge. Off-site surface water contamination was not found during the French Limited remedial investigation.

Groundwater in the shallow aquifer has been heavily contaminated by the leaching action of organic wastes deposited in the main waste pit. At this time, only the shallow aquifer is significantly contaminated. No residential wells are currently affected.

A second aquifer lies beneath the first, separated by approximately 70 feet of sediments consisting predominantly of clays. This lower aquifer appears to contain trace concentrations of one or more volatile organic compounds which can be attributed to a leaking monitoring well. This well has since been sealed.

Underlying the two aquifers previously discussed and separated by several hundred feet of clay are the Chicot and Evangeline Aquifers, a primary drinking water source for metropolitan Houston. The aquifers do not appear to be in any danger of future contamination.

Air quality at the site has not been measurably degraded. However, if the wastes were to be disturbed in an uncontrolled situation the air releases could be substantial.

A more detailed description of the environmental setting, site hydrology, and extent and magnitude of contamination can be found in the RI report written by Lockwood, Andrews and Newnam (April 1985).

MIGRATION PATHWAYS

The high levels of contaminants in the shallow aquifer in the vicinity of the lagoon (main waste pit) is evidence of seepage from the lagoon. The lack of significant mounding of the water table near the lagoon suggests that the seepage rate from the lagoon is low. However, given that the contamination has been present for about 20 years, even a low rate of seepage would cause contamination at the levels seen in the shallow aquifer.

Lateral contaminant migration within the shallow aquifer has been estimated to be up to 80 ft/year to the south, southeast. Field investigations have confirmed ground water contamination up to 1000 feet south, southeast of the site (Figure 4).

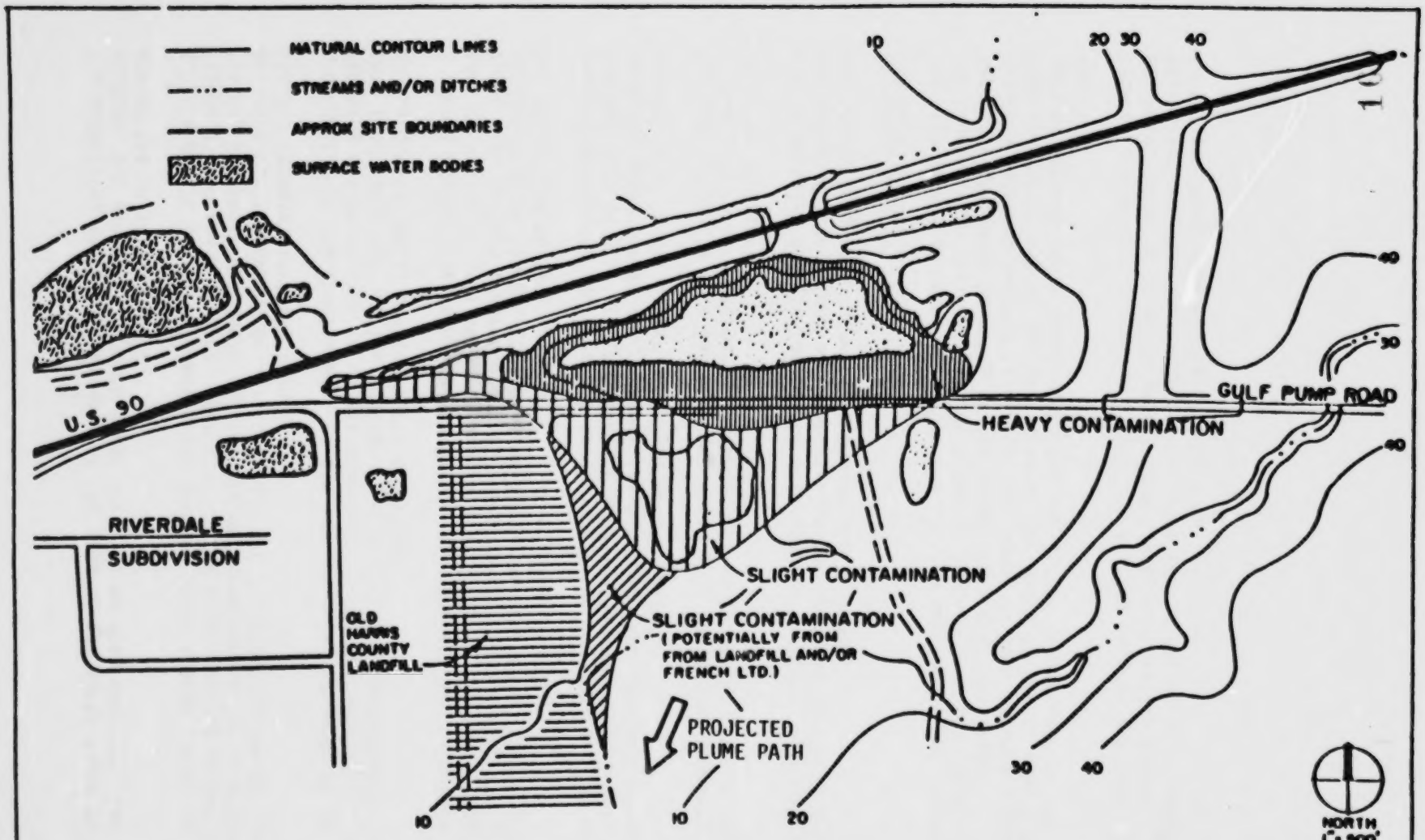

FIGURE NO. 4 · APPROXIMATE AREA OF GROUND WATER CONTAMINATION
FRENCH LIMITED SITE

LAN / HLA

Prepared for:
TEXAS WATER COMMISSION
Date: MARCH 1987 Project no: 1533-20-001-3410

Vertical migration from upper to lower aquifer is estimated to be between 0.3 and 0.1 feet/year. At this rate, the contaminant/plume in the alluvium could have pentrated the underlying clay only a few feet and would take between 230 to 3,500 years to migrate through 70 feet of clay to the lower aquifer. Recent pump tests conducted by the French Limited Task Group indicate that while certain portions of the clay may result in higher rates of vertical migration, the overall integrity of the clay is sufficient to prevent substantial vertical migration of contaminants into the lower aquifer.

Transport and deposition of contaminated materials by stormwater runoff and/or floodwaters are surface pathways for migration of contaminants away from the site.

Transport and deposition mechanisms are illustrated by the San Jacinto River flood of April 1979. The flood played a key role in dispersing sludges out of the main waste pit. The flood breached the north berm of the pit (refer to Figure 2) allowing floating sludges to flow into the south slough. Contaminated surface soils bordering the slough provide a pathway for contamination to leave the site via erosion during heavy rainfall.

Contamination has passed through similiar pathways northward beneath US Highway 90 bridge and is now found in the slough along the north side of Highway 90. A "fishing hole" is part of this slough. Sediments in this slough contain trace concentrations of several compounds and up to 10 ppm PCB in the "fishing hole". Surface waters are apparently free of organic contamination and contain only trace concentrations of several metals. Fish tissue from specimens taken in the fishing hole indicated low level bioaccumulation of PCBs and some metals, with both contaminants below U.S. Food and Drug Administration (FDA) guidelines for human consumption.

During flood events, water flowing west from the site could discharge into the Riverdale subdivision. Flood waters would also move directly south of the site.

TARGET RECEPTORS

The following target receptors were identified in the Remedial Investigation:

- Residents of Riverdale subdivision;
- Sport fishermen that frequent the "fishing hole" under U.S. Highway 90;
- Harris County Precinct 2 road maintenance personnel;
- State Department of Highways and Public Transportation maintenance personnel;
- Persons who make unauthorized or inadvertent entrance to the site.

Results of the RI study and Endangerment Assessment indicate that remedial action is required to reduce the potential for public health exposure through:

- o Direct contact with contaminated sludges and soils and surface water;
- o Ingestion of contaminated aquatic species and plants; and
- o Consumption of and/or contact with contaminated groundwater.

ENFORCEMENT ANALYSIS

Approximately 95 Potentially Responsible Parties (PRPs) have been identified for the site. ARCO has taken the lead in forming a task group, the French Limited Task Group, which has conducted various investigations and studies at the site. The Task Group has expressed an interest in conducting future remedial activities at the site and has conducted a biodegradation study at the site.

The remedy to be conducted at the site will be selected by the Record of Decision (ROD). If negotiations with the PRPs are unsuccessful it is recommended that the fund be utilized for cleanup of the site. Should the fund be used, EPA will enter into a Cooperative Agreement with the State of Texas for the design and construction. Attempts to recover the government costs will be made through a subsequent cost recovery action.

ALTERNATIVES EVALUATION

Evaluation Criteria

Section 121(a), (b) and (d) of the Superfund Amendments and Reauthorization Act contains nine factors which EPA must consider in selecting a remedy for a Superfund site. These are summarized below:

1. Consistency with Other Environmental Laws

   In determining appropriate remedial actions at Superfund sites, consideration must be given to the requirements of other Federal and State environmental laws, in addition to CERCLA as amended by SARA. Primary consideration is given to attaining applicable or relevant and appropriate Federal and State public health and environmental regulations and standards. Not all Federal and State environmental laws and regulations are applicable to each Superfund response action.

2. Reduction of Toxicity, Mobility or Volume

   The degree to which alternatives employ treatment which reduce toxicity, mobility, or volume must also be assessed. Relevant factors are:

- The treatment processes the remedies employ and materials they will treat;
- The amount of hazardous materials that will be destroyed or treated;
- The degree of expected reduction in toxicity, mobility, or volume;
- The degree to which the treatment is irreversible;
- The residuals that will remain following treatment, considering the persistence, toxicity, mobility, and propensity for bioaccumulation of such hazardous substances and their constituents.

3. Short-term Effectiveness

The short-term effectiveness of alternatives must be assessed; considering appropriate factors among the following:

- Magnitude of reduction of existing risks;
- Short term risks that might be posed to the community, workers, or the environment during implementation of an alternative including potential threats to human health and the environment associated with transportation, and redisposal or containment of treatment residuals;
- Time until full protection is achieved.

4. Long-term Effectiveness and Permanence

Alternatives are assessed for the long-term effectiveness and permanence they afford along with the degree of certainty that the remedy will prove successful. Factors considered are:

- Magnitude of residual risks in terms of amounts and concentrations of waste remaining following implementation of a remedial action, considering the persistence, toxicity, mobility, and propensity of such hazardous substances and their constituents to bioaccumulate;
- Type and degree of long-term management required, including monitoring and operation and maintenance;
- Long-term reliability of the engineering and institutional controls, including uncertainties associated with land disposal of untreated wastes and residuals;
- Potential need for replacement of the remedy.

5. Implementability

The ease or difficulty of implementing the alternatives are assessed by considering the following types of factors:

- o Degree of difficulty associated with constructing the technologies;
- o Expected operational reliability of the technologies;
- o Need to coordinate with and obtain necessary approvals and permits (e.g., NPDES, Dredge and Fill Permits for off-site actions) from other offices and agencies;
- o Availability of necessary equipment and specialists;
- o Available capacity and location of needed treatment, storage, and disposal services.

6. Cost

The types of costs that should be assessed included the following:

- o Capital cost;
- o Operational and maintenance costs;
- o Net present value of capital and O&M costs;
- o Potential future remedial action costs.

7. Community Acceptance

This assessment should look at:

- o Components of the alternatives which the community supports;
- o Features of the alternatives about which the community has reservations;
- o Elements of the alternatives which the community strongly opposes.

8. State Acceptance

Evaluation factors include assessments of:

- o Components of the alternatives the State supports;

- o Features of the alternatives about which the State has reservations;

- o Elements of the alternatives under consideration that the State strongly opposes.

9. Overall Protection of Human Health and the Environment

Following the analysis of the remedial options against individual evaluation criteria, the alternatives are assessed from the standpoint of whether they provide adequate protection of human health and the environment considering the multiple criteria.

Remedial Objectives

The Feasibility Study developed the following objectives and criteria based on the results of the Remedial Investigation

Objective 1: Reduce health hazards associated with direct contact of contaminated soils, sediments or sludges.

Criterion: No direct contact with soils/sediment or sludges containing levels greater than those shown in Table 3.

Objective 2: Reduce contaminants in the upper aquifer.

Criterion: USEPA Drinking Water Standards and/or (10^{-4} to 10^{-7} cancer risk range) Human Health Criteria.

Objective 3: Reduce impact of contaminated runoff.

Criterion: Surface Water Quality Criteria.

Objective 4: Reduce migration of waste during flood events.

Criterion: Surface Water Quality Criteria for liquid waste. Solid Waste criterion shown in Table 3.

Objective 5: Reduce contamination in lower aquifer.

Criterion: USEPA Drinking Water Standards and/or (10^{-4} to 10^{-7} cancer risk range) Human Health Criteria.

Objective 6: Reduce human contact with contaminated surface water.

Criterion: Surface Water Quality Criteria.

Objective 7: Reduce the potential of any adverse air discharge.

Criterion: OSHA standards at site boundary, Federal Ambient Air Standards.

TABLE 3

DIRECT CONTACT CRITERIA FOR SLUDGES AND CONTAMINATED SOILS
FRENCH LIMITED SITE

Contaminant	Maximum Allowable Concentration, ppm*
Benzo (A) pyrene	9
PCB	23
Volatile Organic Compounds	43
Arsenic	7
Benzene	14

* Values correspond to a 1×10^{-5} excess lifetime cancer risk factor. Method and data for calculation taken from "Endangerment Assessment for French Limited Site," CH2M Hill, April 1987.

Identification of Potential Remedial Technologies

The following broad criteria was used in the initial screening of alternatives and is consistent with the guidances distributed pursuant to SARA.

1. Effects of the Alternative. The effects of each alternative should be evaluated in two ways: (i) whether the alternative itself or its implementation has any adverse environmental effects; and (ii) for source control remedial actions, whether the alternative is likely to achieve adequate control of source material, or for offsite remedial actions, whether the alternative is likely to effectively mitigate and minimize the threat of harm to public health, or the environment.

2. Implementability. Alternatives must be feasible for the location and conditions of the release, applicable to the problem, and represent a reliable means of addressing the problem.

3. Cost. For each alternative, the cost of installing or implementing the remedial action must be considered, including operation and maintenance costs. Cost is an important factor when comparing alternatives which provide similar results. However, it is not used to discriminate between treatment and nontreatment alternatives.

   EPA is also directed by SARA to give preference to remedial actions that utilize treatment to remove contaminants from the environment. Off-site transport and disposal without treatment is the least preferred option where practicable treatment technologies are available.

Development of Site Remedial Alternatives

A number of potentially applicable remedial technologies were studied for the French Limited site. Combinations of technologies were identified and developed into 11 (Table 4) alternative remedial actions. Treatment alternatives for source control actions were developed ranging from an alternative that would eliminate the need for long-term management at the site, to an alternative using, as a principal element, treatment that would reduce the toxicity, mobility, or volume of site waste as a principal element. In addition, two other alternatives were reviewed:

1) An alternative that involves containment of waste with little or no treatment, but provides protection of human health and the environment primarily by preventing potential exposure or by reducing the mobility of the waste.

2) A no-action alternative.

A summary of initial screening of alternatives is presented in Table 4. After this initial screening of alternatives, five alternatives were retained for detailed evaluation and are described below.

TABLE 4

SUMMARY OF INITIAL EVALUATION AND SCREENING RATIONALE FOR REMEDIAL ALTERNATIVES AT THE FRENCH LIMITED SITE

Alternative	Effectiveness	Implementability	Engineering Feasibility	Relative Cost* Million$	Rationale
1. On-site incineration of sludges and contaminated soils	++	++	0	118.1	Most effective alternative; least amount of risk; relatively simple to implement; permanently destroys waste
2. On-site incineration of sludges and thermal stripping of contaminated soils	++	0	0	65.2	Implementation more difficult; questionable adequacy of soil treatment
3. On-site incineration of sludges and chemical fixation of contaminated soils	+	0	0	71.1	Effective treatment of sludges; treatment of soils; questionable due to high organic contamination
4. On-site incineration of sludges and biological treatment of contaminated soils	+	--	-	125.2	Implementation logistical problems; storage of ash on site during biotreatment does not appear feasible
5. On-site incineration of sludges and water/solvent leaching of contaminated soils	+	0	0	63.4	Inadequate treatment of soils may leave some contaminants at levels exceeding established criteria and in violation of ARARs; generation of large volume of tal sludge for disposal

TABL (Cont.)

SUMMARY OF INITIAL EVALUATION AND SCREENING
RATIONALE FOR REMEDIAL ALTERNATIVES AT THE
FRENCH LIMITED SITE

Alternative	Effectiveness	Implementability	Engineering Feasibility	Relative Cost* Millions	Rationale
6. In-place biological treatment of sludges and contaminated soils	++	++	++	47	Achieves cleanup criteria in timeframe similar to Alt. 1. Stabilization of treatment residue required.
7. In-place biological treatment of sludges and chemical fixation of contaminated soils	+	0	0	N.C.	Fixation is questionable due to high organic content of untreated soils.
8. In-place biological treatment of sludges and water/solvent leaching of contaminated soils	+	0	0	N.C.	Inadequate treatment of soils may leave some contaminants at levels exceeding established criteria and in violation of ARARs; generation of large volume of metal sludge for disposal.
9. On-site incineration of sludges and contaminated soils above background levels.	++	++	0	166.8	Increased cost for very little decrease in risk; Alt. 1 essentially achieves same risk without large quantity of slightly contaminated soils.

N.C. - Not Calculated

TABLE 4 (Cont.)

SUMMARY OF INITIAL EVALUATION AND SCREENING
RATIONALE FOR REMEDIAL ALTERNATIVES AT THE
FRENCH LIMTED) SITE

	Alternative	Effectiveness	Implementability	Engineering Feasibility	Relative Cost* Million$	Rationale
10.	Isolate sludges and contaminated soils with slurry wall and cap	-	+	0	41.3	Effective short-term/ temporary solution; retained for comparative purposes
11.	No action	--	N/A		0.52	Retained for comparative purposes

* These costs are baseline estimates for comparatives purposes only. Detailed costs will be generated for alternates retained for detailed analysis.

The following scale was used to rate each of the remedial actions:

Rating	Definition
--	Extremely negative
-	Moderately negative
0	Neutral effect
+	Positive
++	Very positive

Alternative 1 is complete incineration of sludges and soils above criteria levels (listed in Table 3). Ash would be chemically fixed if deemed hazardous and backfilled onsite. Surface water will be treated if necessary and discharged to the San Jacinto River. Contamination in the upper aquifer should naturally attenuate to a 10^{-6} human health level in less than 10 years after the source is removed. The estimated cost of this alternative is $120 million.

Alternative 2 is incineration of sludges only, with contaminated soils chemically fixed and left in place. Surface water and groundwater would be handled the same as in Alternative 1. The estimated cost of this alternative is $75 million.

Alternative 3 would encapsulate contaminants by slurry walls and a multi-layered cap. This alternative is a containment remedy which is required to be evaluated under interim guidance under SARA. Surface water and groundwater would be handled in the same manner as Alternative 1 and 2. The estimated cost of this alternative is $43 million.

Alternative 4 is the no-action alternative. The Superfund regulations require full consideration be given to a no-action alternative. The associated $500,000 cost of this alternative is for fencing and groundwater monitoring. However, no action would be taken to contain or treat the waste.

Alternative 5 is consists of using indigenous bacteria for biological degradation with aeration of the lagoon waste for enhancement of the degradation process. Controls would be implemented to reduce air emissions. Surface water in the lagoon would be treated and discharged to the nearby San Jacinto River. Residues from the treatment process would be stabilized and buried onsite. The lagoon would be backfilled to grade with clean soil and contoured to promote drainage. Also, a groundwater recovery system would be installed to pump and treat the shallow aquifer in the vicinity of the site.

POTENTIALLY RESPONSIBLE PARTIES PILOT STUDIES

Some of the firms that disposed of waste at the French site formed the French Limited Task Group in 1983 and began their own site evaluation studies. As a result of these investigations, the Task Group requested that EPA give serious consideration to a biological treatment concept for the site. Pursuant to an EPA Administrative Order signed on April 16, 1987, the responsible parties have undertaken pilot scale testing of biological treatment systems onsite.

In order for the EPA to consider biological treatment as a remedy, the following was to be clearly demonstrated in the pilot study:

- equal permanence and protection of human health and the environment afforded by onsite thermal destruction in the short and long term,

- degradation of the waste in a timeframe faster than or equal to thermal destruction, and

- all applicable, relevant, or appropriate State and Federal regulations are met or exceeded to the same extent as thermal destruction.

The pilot study was conducted onsite from April to October 1987 in a 0.6-acre section of the lagoon. The sampling plan was designed to address three areas of concern:

- The biodegradation rate and overall implementation schedule;

- The degree of air emissions that might evolve from full-scale implementation;

- The impact of implementation on groundwater quality.

The results of the pilot study are documented in a report submitted to the EPA by the Task Group on October 30, 1987. The results of the waste sampling indicate that the organic contaminants of concern, except the PCBs and arsenic, were reduced to concentrations below the cleanup criteria established for French Limited. Stabilization of the treatment residue may be necessary to adequately prevent migration of the PCBs and arsenic to the upper aquifer.

Air monitoring data were generated to evaluate time weighted average and instantaneous concentrations of volatile organics in the ambient air near the demonstration area. Samples were taken upwind and downwind of the demonstration area and downwind at the French Limited property boundary. Action limits for operating the pilot system were set at 50% of the threshold limit values for seven indicator compounds (benzene, toluene, ethylbenzene, trichloroethene, tetrachloroethene, chloroform, and napthalene). The results of the air monitoring are summarized in Table 5. These results indicate that air emissions generated by the aeration process should not present a significant health threat.

Results from monitoring well samples taken from around the perimeter of the test area indicate that some degradation of the water quality in the upper aquifer did occur during the pilot study. Prior to aeration, the

Table 5

FRENCH LIMITED PILOT STUDY
AIR MONITORING DATA

Compound	TLV	Detection Limit[1]	Legonside			Pencoline	
			Actual Concentration Range[2]	Highest Concentration % of TLV	Most Frequent Concentration Range[3]	Actual Concentration Range[2]	Most Frequent Concentration Range[3]
Chloromethane	50,000	0.6	BDL-2.4	0.005	BDL	BDL	BDL
Bromomethane	5,000	0.3	BDL	-	BDL	BDL	BDL
Vinyl Chloride	5,000	0.4	BDL-132	3	BDL	BDL-1.8	BDL
Chloroethane	1,000,000	0.4	BDL	-	BDL	BDL	BDL
Methylene Chloride	50,000	0.3	BDL-7.7	0.015	BDL	BDL-3.9	BDL
Acetone	750,000	0.5	BDL-46	0.006	BDL-10	BDL-31.1	BDL-10
Carbon Disulfide	10,000	0.4	BDL-134	1	BDL	BDL-56	BDL
1,1-Dichloroethene	5,000	0.3	BDL-3.5	0.7	BDL	BDL	BDL
1,1-Dichloroethane	200,000	0.3	BDL-225	0.1	BDL-10	BDL-5.9	BDL
Trans-1,2-Dichloroethene	200,000	0.3	BDL-483	0.24	10-50	BDL-16	BDL
Chloroform	10,000	0.2	BDL-9.4	0.009	BDL-10	BDL-3.4	BDL
1,2-Dichloroethane	10,000	0.3	BDL-214	2	BDL-10	BDL-9.6	BDL
2-Butanone	200,000	0.4	BDL-122	0.06	BDL-10	BDL-61.4	BDL
1,1,1-Trichloroethane	350,000	0.2	BDL-1.4	0.0004	BDL	BDL-0.5	BDL
Carbon Tetrachloride	5,000	0.2	BDL-1.1	0.02	BDL	BDL-1.1	BDL
Vinyl Acetate	10,000	0.3	BDL-9.8	0.1	BDL	BDL-1.0	BDL
Bromodichloroethane		0.2	BDL	-	BDL	BDL	BDL
1,2-Dichloropropane	75,000	0.2	BDL-110	0.15	BDL-10	BDL-2.0	BDL
Trans-1,3-Dichloropropene	1,000	0.3	BDL	-	BDL	BDL	BDL
Trichloroethene	50,000	0.2	BDL-80	0.16	BDL-10	BDL-1.2	BDL
Dibromochloromethane		0.1	BDL	-	BDL	BDL	BDL

Notes:

1. Based on normal 20-liter air volume.
2. BDL entries indicate levels were below detection limits.
3. Concentration level ranges used: BDL, BDL-10 ppb, 10-50 ppb, >50 ppb.

Table 5 (cont.)

FRENCH LIMITED PILOT STUDY
AIR MONITORING DATA

Compound	TLV	Detection Limit[1]	Legionside			Pancoline	
			Actual Concentration Range[2]	Highest Concentration % of TLV	Most Frequent Concentration Range[3]	Actual Concentration Range[2]	Most Frequent Concentration Range[3]
1,1,2-Trichloroethane	10,000	0.2	BDL-11.2	0.11	BDL	BDL-1.1	BDL
Benzene	10,000	0.4	BDL-255	3	BDL-10	BDL-11	BDL-10
Cis-1,3-Dichloro-propene	1,000	0.3	BDL	-	BDL	BDL	BDL
2-Chloroethyl Vinyl Ether		0.3	BDL-3.8	-	BDL	BDL	BDL
Bromoform	500	0.1	BDL	-	BDL	BDL	BDL
2-Hexanone	5,000	0.3	BDL-1.3	0.02	BDL	BDL	BDL
4-Methyl-2-Pentanone	50,000	0.3	BDL-3.7	0.007	BDL	BDL	BDL
Tetrachloroethane	50,000	0.2	BDL-6.1	0.01	BDL	BDL-0.2	BDL
1,1,2,2-Tetrachloro-ethane	1,000	0.2	BDL	-	BDL	BDL	BDL
Toluene	100,000	0.3	BDL-121	0.1	BDL-10	BDL-24	BDL-10
Chlorobenzene	75,000	0.2	BDL-19.8	0.025	BDL	BDL-1.0	BDL
Ethylbenzene	100,000	0.3	BDL-152	0.1	BDL-10	BDL-5.0	BDL-10
Styrene	50,000	0.3	BDL-52.9	0.1	BDL	BDL-1.1	BDL
Total Xylene	100,000	0.3	BDL-112	0.1	BDL-10	BDL-7.0	BDL-10

Notes:

1. Based on normal 24-liter air volume.
2. BDL entries indicate levels were below detection limits.
3. Concentration level ranges used: BDL, BDL-10 ppb, 10-50 ppb, >50 ppb.

Table 5 (cont.)

FRENCH LIMITED PILOT STUDY
AIR MONITORING DATA

Target Compound	TLV	Action Limit	Detection Limit	Legionella Concentration Range	Legionella Maximum Concentration % of Action Limit	Pencoline Concentration Range	Pencoline Maximum Concentration % of Action Limit
Chloroform	50,000	25,000	350	BDL	———	BDL	———
Benzene	10,000	5,000	10	BDL-1160	23	BDL-150	3.0
Trichloroethane	100,000	50,000	10	BDL-675	1.4	BDL-520	1.0
Toluene	200,000	100,000	25	BDL-1494	1.5	BDL-500	0.6
Tetrachloro-ethane	100,000	50,000	30	BDL-850	1.7	BDL-156	0.3
Ethylbenzene	100,000	50,000	50	BDL-810	1.6	BDL-420	0.9

BDL - Below Detection Limit

sludges formed a seal on the bottom of the lagoon. This seal effectively retarded leachate generation. Aeration of the sludges broke the seal, allowing leachate to contaminate the upper aquifer.

Sludges on the bottom of the lagoon currently provide an effective barrier against leachate generation. As these sludges are mixed in the lagoon, some leaching of contaminants to the shallow aquifer may occur. Recovery and treatment of the shallow aquifer is necessary to control any groundwater degradation which may occur during implementation of the biotreatment remedy.

Based on the results of the study, the estimated implementation time for a full scale biological treatment remedy is four years. The estimated present worth cost of the remedy is $47 million.

Evaluation of Alternatives

The degree that the five remedial alternatives meet the nine selection criteria is shown in Table 6. The following values were assigned to compare remedial selection criteria:

++ Alternative would greatly exceed a selection criterion when compared to other alternatives.

+ alternatives would exceed a criterion in comparison to other alternatives

o alternatives can be designed to meet the selection

- special efforts will be necessary in the design of the remedy to meet the selection criterion

-- alternative would present the most difficulty in achieving a selection criterion in comparison to other alternatives.

The rationale for the ratings assigned in this table is as follows:

1. Compliance with ARARs (i.e. meets or exceed applicable, or relelvant, and appropriate Federal and State Requirements).

   a. No action was assigned a "--" because it would not comply with SARA or the National Contingency Plan provisions to respond to a threat of release which endangers human health and the environment.

   b. Complete Incineration was rated "++" for compliance with all identified ARARs regarding operation of the thermal destruction unit. This alternative would also meet the applicable standards (including water quality standards).

   c. Partial Incineration received a "+" rating. A thermal destruction unit would be operated in compliance with all applicable requirements. This alternative would also, by

TABLE 6

DETAILED EVALUATION OF ALTERNATIVES

Alternative	Complies with ARAR'S	Reduces			Short Term Effect	Long Term Effect	Implement-ability	Cost $ Million		Community Acceptable	State Acceptable	Overall Protect of HH & E
		MOB	TOX	VOL				Initial	Repl			
1. Complete On-site Thermal Destruction	++	++	++	++	0	++	++	120	0	No	-	++
2. On-site Thermal Destruction w/stabiliza-tion	+	0	0	0	0	+	+	75	120	No	-	+
3. Cap and Slurry wall	-	0	-	-	0	--	+	42	120	—	-	-
4. No action	--	--	--	--	0	--	++	0.52	120	—	-	—
5. In situ Biodegrad-ation w/ stabiliza-tion	+	+	++	++	0	++	++	47	120	—	Yes	++

destruction of the PCB contaminated sludges, fulfill the disposal requirements of TSCA. The alternative would not, however, comply with the RCRA requirements for closure in a 100-year floodplain due to the high concentrations of organics remaining in the subsoil.

d. Containment was rated "-". This alternative would not comply with the RCRA or TSCA requirements for closure in floodplain.

e. Insitu biodegradation received a "++" rating for compliance. Reduction of the contaminant concentrations below the health based criteria, in conjuction with chemical fixation of the treated residue, would comply with the closure requirements for the site. This alternative would also satisfy the preference in SARA to significantly reduce the mobility, toxicity, or volume of the waste.

The compliance of each alternative with ARARs is shown in Table 7.

2. Reduces Mobility, Toxicity, or Volume

a. No Action received a "--" because it would not reduce these parameters to any extent.

b. Complete Incineration rated a "++" for these parameters since all of the organic contaminants above the identified health-based criteria would be eliminated.

c. Partial Incineration was rated "0". The contaminated sludges would be destroyed and the mobility of the subsoils would be reduced. However, the toxicity of the subsoils would not be significantly reduced, while the volume of the soil would be increased significantly by the addition of the stabilizing agents. Also, the degree of reduction of mobility will depend upon the concentration of organics in the soil. Soils with greater than 2 percent organics may continue to generate leachate after stabilization.

d. Containment (cap and slurry wall) was rated a "-". The volume and toxicity would not be affected and mobility of the waste would only be reduced so long as the integrity of the slurry wall was maintained.

e. In situ biodegradation received a "++" rating. Destruction of the contaminated sludges and treatment of the soils will significantly reduce the toxicity of the waste. Reduction in the volume of the sludges will be offset somewhat by an

TABLE 7

REMEDIAL ALTERNATIVE COMPLIANCE WITH APPLICABLE
OR RELEVANT AND APPROPRIATE REQUIREMENTS

Law or Regulation	Analysis	Remedial Alternative No. 1	2	3	4	5
Federal						
Resource Conservation and Recovery Act (RCRA) including the Hazardous and Solid Waste Amendments (HSWA)	Implementation of this alternative will be consistent with current RCRA regulations, including standards for owners and operators of hazardous waste treatment, storage and disposal facilities and closure performance standards for facilities located within a 100-year floodplain.	X				X
	Implementation of this alternative is consistent with the goals and objectives of HSWA including the current and proposed land disposal bans for RCRA wastes.	X	X			X
Department of Transportation (DOT) Hazardous Materials Transport Rules	Implementation of this alternative does not specifically require the off-site transport of hazardous materials.	X	X	X	X	X
Clean Air Act (CAA) and National Ambient Air Quality Standards (NAAQS)	Implementation of this alternative may result in the emission of pollutants into the air. On-site personnel will be adequately protected. Emissions will be controlled to comply with standards.	X	X	X	X	X
	Implementation of this alternative will require point source emissions to the air. Pollution control equipment will be placed on the on-site treatment facility to comply with standards.	X	X	X		
Toxic Substances Control Act (TSCA)	Implementation of this alternative will be consistent with current TSCA regulations and policy for cleanup of PCBs and PCB contaminated material.	X	X			X

TABLE . (Con't)

REMEDIAL ALTERNATIVE COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Law or Regulation	Analysis	Remedial Alternative No. 1	2	3	4	5
Federal						
Federal Water Quality Criteria (FWQC) including criteria established in the Safe Drinking Water Act and its maximum contaminant level goals, the Clean Water Act, and the Marine Protection, Research and Sanctuaries Act	Implementation of the alternative should result in compliance with all FWQC for groundwater.	X	X	X		X
	Implementation of this alternative should result in compliance with all FWQC for surface water.	X	X	X		X
Floodplain Management Executive Order No. 11988	Implementation of this alternative will be consistent with Floodplain Management requirements as prescribed in Executive Order 11988.	X	X	X		X
State						
Texas Water Commission (TWC) Surface Water Quality Criteria (SWQC)	Implementation of this alternative will produce a point source discharge. The discharge will be treated on-site as necessary to satisfy State SWQC.	X	X	X		X
Texas Air Control Board Regulations	Implementation of this alternative may produce a point source emission from on-site equipment. Emissions will be in compliance with State regulations.	X	X	X		X
	Implementation of this alternative may produce a non-point source emission. Emissions will be controlled to comply with standards.	X	X	X		X

increase in volume of stabilized residues. The net reduction in volume is, however, expected to be significant. A slight, temporary increase of the mobility of the waste may be expected during implementation of the remedy. This increase is due to leachate generation and can easily be controlled by recovering and treating the groundwater under the site.

3. Short-term Effectiveness

All of the alternatives were rated "0". A potential exists for the release of volatile organics during site drainage and excavation activities for alternatives 1, 2, and 3 and during the operation of alternative 5. This can be reduced by cautious work practices during implementation, and will have to be addressed during design. Property boundary air monitoring data generated during the PRP pilot study indicates that emissions generated by bioremediation should not consitute a health treat.

4. Long-term Effectiveness and Permanence

Both alternatives 1 and 5 were rated "++" for their abilities to reduce contaminants to levels below the established health-based criteria. While biodegradation of PCBs to the criterion (23 ppm) has not been demonstrated, significant reductions in concentration have been noted. Stabilization of the residue should provide adequate long-term effectiveness if the PCB criterion is not achieved through biodegradation. Partial incineration was rated less highly (+) because of concerns regarding the permanance of stabilized soils with high concentrations of organics. Containment and No Action were rated "—" because neither would contribute to the long-term remediation given the site conditions of high water table and 100-year floodplain.

5. Implementability

Alternative 1,4, and 5 were rated "++" because they are easily implementable in a reasonable timeframe. Concerns about air emission can be overcome with careful design and implementation considerations. Partial incineration received a "+" rating due to potential problems with the stabilization of soils with high organics concentrations. The containment alternative was rated "+" based on its effectiveness as a short-term solution at the site.

6. Cost

Estimated costs for each alternative are listed in Table 6. Included in this table are the total present worth and replacement costs. Total present worth costs consist of capital costs and operation and maintenance costs through the post-closure period. Replacement costs are the costs for remediation of the site should the remedy fail.

The containment, partial incineration, and no action alternatives are considered most likely to fail because of the potential for leachate generation, slurry wall failure, and lateral migration of the waste. Failure of in situ biotreatment is less likely because the treated soils may be more amenable to solidification. However, failure costs must also be considered for biotreatment Replacement costs are estimated at $120 million, assuming that onsite incineration is the replacement cleanup technology.

Costs associated with the no action alternative include groundwater and air monitoring and periodic site inspections. These costs are considered to be operation and maintenance costs, not capital costs.

Costs for the containment alternative, $42 million, are primarily reflective of the construction costs for the cap and slurry wall and treatment of the lagoon water prior to discharge.

The difference in cost between alternatives 1 and 2 is associated with the lower volume of material to be treated by incineration.

Alternative 5, biological treatment, offers the lowest cost of the treatment alternatives. This is attributed to the equipment and operating costs which are significantly lower for biological treatment than for thermal destruction.

7. Community Acceptance

The community expressed significant concerns about the incinerator alternatives. Comments regarding the biological treatment alternative were mixed, ranging from complete endorsement to opposition. Those persons opposed to biological treatment were also opposed to all onsite remedies.

A complete summary of the community relations history and responses to public comments is presented in Appendix B of this summary.

8. State Acceptance

The State of Texas (Texas Water Commission) has concurred with the selected biological treatment remedy.

9. Overall Protection of Public Health and the Environment

Complete incineration and in situ bioremediation both received "++" ratings. Incineration offers destruction of all of the contaminants to levels below the health-based criteria and can be operated in compliance with applicable requirements. Biodegradation has been shown to reduce contaminants, except PCBs, to levels below the criteria. Stabilization of the treated residue for disposal onsite will provide adequate protection from any residual PCB concentrations.

Partial incineration was rated a "+" for the destruction of contaminated sludges. A higher rating could not be justified due to the potential for future leachate generation form inadequately stabilized soils. The cap and slurry wall alternative was rated a "-" because it was considered a short term remedy for the site. The potential would always exist for failure of either the cap or the slurry wall allowing for the movement of unstabilized wastes contained onsite.

The risk involved with leaving untreated waste onsite is the principal reason that the no action alternative received a rating of "--".

Recommended Alternative

Based on the evaluation of alternatives discussed in the previous section, Alternative 5 is recommended for implementation at the French Limited site. The major components of this alternative include:

1. In situ biodegradation of sludges and contaminated soils;

2. Recover and treat contaminated groundwater until modeling shows that a reduction in the concentration of volatile organics to a level which attains the 10^{-6} Human Health Criteria can be achieved through natural attenuation in 10 years or less.

3. Discharge surface waters from the lagoon to the San Jacinto River; treat as necessary to meet surface water discharge criteria;

4. Stabilize the treated residue and dispose onsite;

5. Backfill the lagoon to grade and conform the site surface to promote drainage; and

6. Monitor the upper and lower aquifers for a period of 30 years.

Operation and Maintenance (O&M)

Operation and maintenance will consist of post closure monitoring of the upper and lower aquifers as well as surficial maintenance of the site once closure is complete. Surficial maintenance includes such items as:

- o Fence repair, and
- o Fill replacement and regrading.

Due to its proximity to the French Limited site, groundwater monitoring in the Riverdale subdivision will be necessary during the post-closure period. The frequency of sampling will be outlined in a post-closure operation and maintenance plan. This plan will be developed and finalized during implementation of the selected remedy.

O&M costs include purchased services such as sampling and laboratory analysis for groundwater monitoring, administrative costs, taxes, insurance, labor, and materials. Operation of the groundwater recovery system after the final closure of the lagoon is also included in this cost. Operation of this recovery system will continue until modeling shows that a reduction in the concentration of volatile organics to a level which attains the 10^{-6} Human Health Criteria can be achieved through natural attenuation in 10 years or less.

Future Actions

No future actions are anticipated at the site. The proposed remedial action is considered permanent. If, however, significant, unforeseen offsite migration of contamination occurs as a result of the site, appropriate remedial measures will be taken. Also, should organic contamination be detected during any of the residential well sampling events, the need for an alternate water supply in the subdivision will be evaluated.

Remedial Action Schedule

ROD Signature	March 1988
Complete Enforcement Negotiation	September 1988
Start Remedial Design	September 1988
Complete Remedial Design	December 1989
Begin Remedial Action	December 1989
Complete Remedial Action	December 1993

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TEXAS WATER COMMISSION

Paul Hopkins, Chairman
John O. Houchins, Commissioner
B. J. Wynne, III, Commissioner

Allen Beinke, Executive Director

J. D. Head, General Counsel
Michael E. Field, Chief Examiner
Karen A. Phillips, Chief Clerk

Mr. Robert E. Layton, Jr., P.E.
Regional Administrator
U.S. Environmental Protection Agency
Region VI
1445 Ross Avenue
Dallas, TX 75202-2733

Re: Draft Record of Decision
French Limited Superfund Site

Dear Mr. Layton:

We have reviewed the draft Record of Decision (ROD) and responsiveness summary for the French Limited Superfund Site. We have no objection to the issuance of a ROD by the Environmental Protection Agency (EPA).

On a related matter, we would like to comment on the obligation of State monies for a period of 30 years after the remedial construction activities are complete. Such a commitment by the State of Texas may be a violation of Article VIII, Section 6 of the Texas Constitution which addresses the appropriation of money beyond a two year period.

Sincerely yours,

Allen Beinke

Allen P. Beinke
Executive Director

P. O. Box 13087 Capitol Station • 1700 North Congress Ave. • Austin, Texas 78711-3087 • Area Code 512/463-7830

TOTAL P.09

APPENDIX A

ADMINISTRATIVE RECORD

[illegible]
[illegible]
NUMBER OF PAGES: 007
AUTHOR: Kenneth D. Cooper, Environmental Biologist
COMPANY/AGENCY: U.S. E.P.A., Houston Branch
RECIPIENT: Acting Director, Surveillance and Analysis Division, U.S. E.P.A.
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Inspection of French Ltd. Waste Disposal Site, near Crosby, Texas

DOCUMENT NUMBER: 2
DOCUMENT DATE: 10/11/79
NUMBER OF PAGES: 005
AUTHOR: Kenneth D. Cooper, Environmental Biologist
COMPANY/AGENCY: U.S. E.P.A., Houston Branch
RECIPIENT: Acting Director, Surveillance and Analysis Division, U.S. E.P.A.
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Follow-up Site Inspection of the French Ltd. Waste Disposal Site, near Crosby, Texas

DOCUMENT NUMBER: 3
DOCUMENT DATE: 10/24/79
NUMBER OF PAGES: 005
AUTHOR: Karen Solari
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Identification and Preliminary Assessment Report Hazardous Waste Site

DOCUMENT NUMBER: 4
DOCUMENT DATE: 10/31/79
NUMBER OF PAGES: 004
AUTHOR: Jack Wiseman
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Identification and Preliminary Assessment Report Hazardous Waste Site

DOCUMENT NUMBER: 5
DOCUMENT DATE: 11/20/79
NUMBER OF PAGES: 004
AUTHOR: Jack Wiseman
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Preliminary Assessment Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Potential Hazardous Waste Site - Identification and Preliminary Assessment

DOCUMENT NUMBER: 6
DOCUMENT DATE: 12/05/79
NUMBER OF PAGES: 004
AUTHOR: Deboran Speak
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Tentative Disposition - Potential Hazardous Waste Site

DOCUMENT NUMBER: 7
DOCUMENT DATE: 01/11/80
NUMBER OF PAGES: 004
AUTHOR: William D. Langley, Chief, Laboratory Section, Houston Branch
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Oscar Ramirez, Jr., Acting Director, Surveillance and Analysis Division, U.S. E.P.A.
DOCUMENT TYPE: Lab Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: French Ltd. Disposal Site; Crosby, Texas

DOCUMENT NUMBER: 8
DOCUMENT DATE: 01/21/80
NUMBER OF PAGES: 005
AUTHOR: Charles A. Gazda, Chief
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Bruce Elliott, Chief, General Enforcement Branch, U.S. E.P.A.
DOCUMENT TYPE: Solid Waste Site Inspection
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Lab reports for samples collected at French Ltd. in Crosby, Texas

DOCUMENT NUMBER: 9
DOCUMENT DATE: 03/04/80
NUMBER OF PAGES: 039
AUTHOR: Royal J. Nadeau, Ph.D., Environmental Response Team
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Wally Cooper, On-Scene Coordinator, U.S. E.P.A., Region VI
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Interim Report on results of sampling and analysis effort for the French Ltd. Abandoned Hazardous Waste Site

DOCUMENT NUMBER: 10
DOCUMENT DATE: 06/10/80
NUMBER OF PAGES: 003
AUTHOR: E. Wallace Cooper
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Tentative Disposition
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Assessment of hazardous waste site

DOCUMENT NUMBER: 11
DOCUMENT DATE: 06/19/80
NUMBER OF PAGES: 010
AUTHOR: E. Wallace Cooper
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Site Inspection Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Inspection findings at French Ltd.

DOCUMENT NUMBER: 12
DOCUMENT DATE: 06/20/80
NUMBER OF PAGES: 004
AUTHOR: Michael A. Kilpatrick, Chemical Engineer, Hazardous Waste Enforcement Task Force
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Kirk Sniff, Enforcement Division, U.S. E.P.A. Region VI
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Enforcement Investigation of French Limited

DOCUMENT NUMBER:
DOCUMENT DATE: 07/23/81
NUMBER OF PAGES: 004
AUTHOR: William D. Lawley, Chief, Lab Services Section, Houston Branch
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: William Libretti, Director, Surveillance & Analysis Division, U.S. E.P.A.
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Re: Lab Report

DOCUMENT NUMBER: 14
DOCUMENT DATE: 06/10/81
NUMBER OF PAGES: 004
AUTHOR: Unspecified
COMPANY/AGENCY: Unspecified
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Site Notification
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Initial notification for hazardous waste site

DOCUMENT NUMBER: 15
DOCUMENT DATE: 07/23/81
NUMBER OF PAGES: 002
AUTHOR: Unspecified
COMPANY/AGENCY: Unspecified
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Addendum to Emergency Action Plan
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Overview of plan to be implemented at French Ltd.

DOCUMENT NUMBER: 16
DOCUMENT DATE: 08/01/81
NUMBER OF PAGES: 011
AUTHOR: Unspecified
COMPANY/AGENCY: Unspecified
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Emergency Action Plan
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Site description, history and general information

DOCUMENT NUMBER: 7
DOCUMENT DATE: 08/13/81
NUMBER OF PAGES: 003
AUTHOR: Unspecified
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: French Ltd. Disposal Site Information
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Information on Cedar Bayou Plant (disposal for French Ltd.)

DOCUMENT NUMBER: 18
DOCUMENT DATE: 09/18/81
NUMBER OF PAGES: 018
AUTHOR: Michael J. Mille, Ph.D., Director of GC/MS Services
COMPANY/AGENCY: California Analytical Laboratories, Inc.
RECIPIENT: Dick Thacker, Viar & Company
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Organics Analyses

DOCUMENT NUMBER: 19
DOCUMENT DATE: 09/29/81
NUMBER OF PAGES: 004
AUTHOR: Larry K. Landry, FIT
COMPANY/AGENCY: Ecology and Environment, Region VI
RECIPIENT: Charles Gazda, Chief, Compliance Section, U.S. E.P.A.
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Review of organic analysis of three sludge samples from French Ltd., TDD #F-6-8109-32

DOCUMENT NUMBER: 20
DOCUMENT DATE: 10/08/81
NUMBER OF PAGES: 004
AUTHOR: William D. Langley, Chief, Laboratory Services Section, Region VI
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: William J. Librizzi, Director, Surveillance and Analysis Division, U.S. E.P.A.
DOCUMENT TYPE: Lab report analyses
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Reports for analyses of monitoring well samples taken by TDWR at French Ltd.

DOCUMENT NUMBER: 21
DOCUMENT DATE: 10/05/81
NUMBER OF PAGES: 009
AUTHOR: Robert W. Cibulskis, Environmental Scientist, Environmental Response Team
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Bob Forrest, Emergency Response Branch, U.S. E.P.A.
DOCUMENT TYPE: Survey Reports at French Ltd. and Motco
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Acoustic Emission Monitoring Surveys

DOCUMENT NUMBER: 22
DOCUMENT DATE: 10/31/81
NUMBER OF PAGES: 007
AUTHOR: Unspecified
COMPANY/AGENCY: U.S. E.P.A., Region VI Headquarters
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Inorganics Quality Assurance RMA QC Report #22

DOCUMENT NUMBER: 23
DOCUMENT DATE: 11/09/81
NUMBER OF PAGES: 002
AUTHOR: David Anderson, FIT
COMPANY/AGENCY: Ecology & Environment, Region VI
RECIPIENT: Charles Gazda, Chief, Compliance Section, U.S. E.P.A.
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Review of sample data from French and Sikes monitor wells: TDD F-6-8111-1

DOCUMENT NUMBER: 24
DOCUMENT DATE: 11/09/81
NUMBER OF PAGES: 002
AUTHOR: David Anderson, FIT
COMPANY/AGENCY: Ecology & Environment, Region VI
RECIPIENT: Charles Gazda, Chief, Compliance Section, U.S. E.P.A.
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Collection of data for Sikes Pit and French Ltd.; TDD#F-6-8109-33

DOCUMENT NUMBER: 25
DOCUMENT DATE: 11/09/81
NUMBER OF PAGES: 003
AUTHOR: Davis Anderson, FIT
COMPANY/AGENCY: Ecology and Environment, Region VI
RECIPIENT: Charles Gazda, Chief, Compliance Section, U.S. E.P.A.
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Review of sample data from French and Sikes monitor wells; TDD F-6-8111-1

DOCUMENT NUMBER: 26
DOCUMENT DATE: 11/23/81
NUMBER OF PAGES: 002
AUTHOR: Thomas N. Smith, FIT Geologist
COMPANY/AGENCY: Ecology and Environment, Region VI
RECIPIENT: Charles Gazda, Chief, Compliance Section, U.S. E.P.A.
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Collection of data for areas surrounding Sikes Pit and French Ltd.; TDD #F-6-8109-33

DOCUMENT NUMBER: 27
DOCUMENT DATE: 02/17/82
NUMBER OF PAGES: 004
AUTHOR: William N. Hedeman, Jr., Director, Office of Emergency and Remedial Response
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Christopher Capper, Acting Asst. Administrator, Solid Waste & Emergency Response Office, U.S. E.P.A
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Authorization to proceed with Remedial Planning at the French Ltd. Disposal Site - Action Memorandum

DOCUMENT NUMBER: [illegible]
DOCUMENT DATE: 05/11/82
NUMBER OF PAGES: 001
AUTHOR: Lamar Miller, Acting Director, Office of Waste Programs Enforcement
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Bill Hedeman, Director, Office of Emergency and Remedial Response, U.S. E.P.A.
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Expenditure of Superfund money at French Ltd., Region VI

DOCUMENT NUMBER: 29
DOCUMENT DATE: 05/12/82
NUMBER OF PAGES: 001
AUTHOR: Charles A. Gazda, Chief, Emergency Response Branch
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: William Hathaway, Acting Chief, Superfund Branch, U.S. E.P.A.
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Community Relations Plan for the French Ltd. Site, Crosby, Texas

DOCUMENT NUMBER: 30
DOCUMENT DATE: 05/11/82
NUMBER OF PAGES: 001
AUTHOR: N. Lamar Miller, Acting Director, Office of Waste Programs Enforcement
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: William N. Hedeman, Jr., Director, Office of Emergency and Remedial Response, U.S. E.P.A.
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Expenditure of Superfund money at the French Ltd. Site

DOCUMENT NUMBER: 31
DOCUMENT DATE: 06/10/82
NUMBER OF PAGES: 019
AUTHOR: Unspecified
COMPANY/AGENCY: Texas Dept. of Water Resources
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Quality Assurance Program Plan for the French Ltd. Site

DOCUMENT NUMBER: 32
DOCUMENT DATE: 06/22/82
NUMBER OF PAGES: 001
AUTHOR: William B. Hathaway, Deputy Director, Air & Waste Management Division
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Russ Wyer, Acting Director, Hazardous Site Control Division, U.S. E.P.A.
DOCUMENT TYPE: Cover Letter
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Community Relations Plans for Remedial Action at Bio-Ecology and French Limited Hazardous Waste Sites

DOCUMENT NUMBER: 33
DOCUMENT DATE: 07/13/82
NUMBER OF PAGES: 001
AUTHOR: William Rhea, Chief, Policy and Design Section
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Eddie Lee, Acting Director, Office of Public Affairs, U.S. E.P.A.
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Community Relations Plan for French Ltd.

DOCUMENT NUMBER: 34
DOCUMENT DATE: 09/03/82
NUMBER OF PAGES: 001
AUTHOR: R. A. Brunell, Lt. Commander
COMPANY/AGENCY: U.S. Coast Guard
RECIPIENT: Sam Nott, Superfund Enforcement Section, U.S. E.P.A.
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Information request from the U.S. Coast Guard

DOCUMENT NUMBER: 35
DOCUMENT DATE: 09/24/82
NUMBER OF PAGES: 001
AUTHOR: Sam Nott, Chief, Superfund Enforcement Section
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: R. A. Brunell, Lt. Commander, U.S. Coast Guard
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Response to inquiry regarding French Ltd.

DOCUMENT NUMBER: 36
DOCUMENT DATE: 02/10/83
NUMBER OF PAGES: 013
AUTHOR: S. David Ellison, P.E.
COMPANY/AGENCY: CH2M Hill
RECIPIENT: Russell Bartley, Site Project Officer, U.S. E.P.A.
DOCUMENT TYPE: Correspondence and workplan
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Cover letter; French Ltd. Work Plan

DOCUMENT NUMBER: 37
DOCUMENT DATE: 02/18/83
NUMBER OF PAGES: 001
AUTHOR: Gary D. Schroeder
COMPANY/AGENCY: Texas Dept. of Water Resources
RECIPIENT: Carlene Chambers, Project Officer, U.S. E.P.A.
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Sikes and French Ltd. Work Plans

DOCUMENT NUMBER: 38
DOCUMENT DATE: 03/04/83
NUMBER OF PAGES: 001
AUTHOR: Frieda Beaty
COMPANY/AGENCY: Baytown Sun
RECIPIENT: Public, Baytown, TX
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "Sikes Waste Dump Cleanup to Begin Soon"

DOCUMENT NUMBER: 39
DOCUMENT DATE: 03/07/83
NUMBER OF PAGES: 007
AUTHOR: Reid L. Dennis, Assistant Project Manager
COMPANY/AGENCY: CH2M Hill
RECIPIENT: Russell Bartley, Site Project Officer, U.S. E.P.A.
DOCUMENT TYPE: Correspondence and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Review of Sikes and French Limited Workplans

DOCUMENT NUMBER: 40
DOCUMENT DATE: 04/23/83
NUMBER OF PAGES: 001
AUTHOR: Unspecified
COMPANY/AGENCY: The Houston Post
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "Governor's letter protests hearings of N-Waste Sites"

DOCUMENT NUMBER: 41
DOCUMENT DATE: 04/23/83
NUMBER OF PAGES: 001
AUTHOR: Unspecified
COMPANY/AGENCY: The Houston Post
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "Field Work Started at Crosby Waste Site"

DOCUMENT NUMBER: 42
DOCUMENT DATE: 05/10/83
NUMBER OF PAGES: 001
AUTHOR: Texas Dept. of Water Resources
COMPANY/AGENCY: State of Texas
RECIPIENT: Public
DOCUMENT TYPE: News Release
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Announcement of field investigation at Sikes

DOCUMENT NUMBER: 43
DOCUMENT DATE: 05/27/83
NUMBER OF PAGES: 001
AUTHOR: Harris Worcester
COMPANY/AGENCY: Democrat, Weatherford, TX
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "House Considers New Water Legislation Today"

DOCUMENT NUMBER: 44
DOCUMENT DATE: 05/29/83
NUMBER OF PAGES: 001
AUTHOR: Unspecified
COMPANY/AGENCY: Baytown Sun, Baytown, TX
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "Fields: Dump to be Cleaned"

DOCUMENT NUMBER: 45
DOCUMENT DATE: 06/30/83
NUMBER OF PAGES: 137
AUTHOR: Unspecified
COMPANY/AGENCY: CH2M Hill
RECIPIENT: Hazardous Site Control Division, U.S. E.P.A.
DOCUMENT TYPE: Final Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Remedial Action Master Plan

DOCUMENT NUMBER: 46
DOCUMENT DATE: 08/03/83
NUMBER OF PAGES: 001
AUTHOR: Carlos Byars and Jim Carlton
COMPANY/AGENCY: Houston Chronicle
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "EPA Taking Emergency Action to Clear Up 2 PCB Dumps"

DOCUMENT NUMBER: 47
DOCUMENT DATE: 06/04/83
NUMBER OF PAGES: 001
AUTHOR: Unspecified
COMPANY/AGENCY: Dallas Morning News
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "Agency to Clean Up Houston Area Dumps"

DOCUMENT NUMBER: 48
DOCUMENT DATE: 06/05/83
NUMBER OF PAGES: 001
AUTHOR: Unspecified
COMPANY/AGENCY: Austin American Statesman
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "High PCB Level Found at Site Near Houston"

DOCUMENT NUMBER: 49
DOCUMENT DATE: 06/05/83
NUMBER OF PAGES: 001
AUTHOR: Unspecified
COMPANY/AGENCY: Baytown Sun, Baytown, TX
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "PCBs Surpass Safe at Crosby Dump"

DOCUMENT NUMBER: 50
DOCUMENT DATE: 06/06/83
NUMBER OF PAGES: 003
AUTHOR: William Hathaway, Deputy Director, Air and Waste Management Division
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: William Librizzi, Director Air and Waste Management Division, U.S. E.P.A.
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Removal action notification

DOCUMENT NUMBER: 51
DOCUMENT DATE: 06/16/83
NUMBER OF PAGES: 001
AUTHOR: Harold Scarlett, Post Environment Writer
COMPANY/AGENCY: The Houston Post
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "Air Pollutants Search Expected after Meeting"

DOCUMENT NUMBER: 52
DOCUMENT DATE: 06/14/83
NUMBER OF PAGES: 001
AUTHOR: Jim Carlton
COMPANY/AGENCY: Houston Chronicle
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "8 PCB-Laced Area Dumps Ready for EPA Cleanup"

DOCUMENT NUMBER: 53
DOCUMENT DATE: 06/28/83
NUMBER OF PAGES: 001
AUTHOR: Carlene Chambers, Project Officer, Policy and Design Section
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Rod Kimbro, Head, Abandoned Site Response Unit, Texas Dept. of Water Resources
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Approval of site specific detailed workplans for French Ltd., Sikes, and Crystal Chemical sites

DOCUMENT NUMBER: 54
DOCUMENT DATE: 06/29/83
NUMBER OF PAGES: 001
AUTHOR: Russell Bartley, Engineer
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Rod Kimbro, Texas Dept. of Water Resources
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Re: Final RAMP for French Ltd.Site

DOCUMENT NUMBER: 55
DOCUMENT DATE: 10/11/83
NUMBER OF PAGES: 034
AUTHOR: Unspecified
COMPANY/AGENCY: Lockwood, Andrews & Newnam, Inc.
RECIPIENT: Texas Dept. of Water Resources
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: French Ltd. Supplemental Field Effort

DOCUMENT NUMBER: 56
DOCUMENT DATE: 10/13/83
NUMBER OF PAGES: 001
AUTHOR: Russell Bartley, Engineer, Operations Section
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Re: French Ltd. Site Investigation Meeting with State of Texas

DOCUMENT NUMBER: 57
DOCUMENT DATE: 11/28/83
NUMBER OF PAGES: 035
AUTHOR: Gary D. Schroeder, P.E., Chief, Solid Waste & Spill Response Section Enforcement & Operations Div.
COMPANY/AGENCY: Texas Dept. of Water Resources
RECIPIENT: Carlene Chambers, Project Officer, U.S. E.P.A.
DOCUMENT TYPE: Memorandum and Work Plan
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: French Ltd. Supplemental Field Effort Work Plan

DOCUMENT NUMBER: 58
DOCUMENT DATE: 01/01/84
NUMBER OF PAGES: 032
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: French Ltd. Task Group
DOCUMENT TYPE: Supplemental Investigation
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: French Ltd. Site Supplemental Investigation

DOCUMENT NUMBER: 59
DOCUMENT DATE: 03/08/84
NUMBER OF PAGES: 002
AUTHOR: Hazel R. Hoffman, Chairman
COMPANY/AGENCY: French Ltd. Steering Committee
RECIPIENT: Chris Lippe, Texas Dept. of Water Resources
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Transmittal of Technical Comments on Remecial Investigation Report

DOCUMENT NUMBER: 60
DOCUMENT DATE: 02/28/84
NUMBER OF PAGES: 077
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: French Ltd. Task Group
DOCUMENT TYPE: French Ltd. Site Technical Comments
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Technical Comments on Remedial Investigation Report

DOCUMENT NUMBER: 61
DOCUMENT DATE: 03/09/84
NUMBER OF PAGES: 002
AUTHOR: Hazel R. Hoffman
COMPANY/AGENCY: French Ltd. Steering Committee
RECIPIENT: Public
DOCUMENT TYPE: Public Relations
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Media Advisory Statement French Limited Task Group

DOCUMENT NUMBER: 62
DOCUMENT DATE: 05/01/84
NUMBER OF PAGES: 077
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: French Ltd. Task Group
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: French Ltd. Supplementary Investigation

[illegible]

DOCUMENT DATE: [illegible]
NUMBER OF PAGES: 030
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: French Ltd. Task Group
DOCUMENT TYPE: Supplementary Investigation Attachments
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Supplementary Investigation Attachments

DOCUMENT NUMBER: 64
DOCUMENT DATE: 08/31/84
NUMBER OF PAGES: 008
AUTHOR: Unspecified
COMPANY/AGENCY: French Ltd. Task Group
RECIPIENT: U.S. E.P.A. Region VI
DOCUMENT TYPE: Information Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: French Ltd. Task Group Information Report

DOCUMENT NUMBER: 65
DOCUMENT DATE: 09/01/84
NUMBER OF PAGES: 060
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: French Ltd. Task Group
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Technical and Regulatory Concepts for In-Place Closure

DOCUMENT NUMBER: 66
DOCUMENT DATE: 10/29/84
NUMBER OF PAGES: 003
AUTHOR: United States of America, Plaintiff
COMPANY/AGENCY: Unspecified
RECIPIENT: Defendants
DOCUMENT TYPE: Orders and Certificate of Service
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Extension of deadline for the Defendants to answer

DOCUMENT NUMBER: [illegible]
DOCUMENT DATE: 11/21/84
NUMBER OF PAGES: 022
AUTHOR: Hazel Hoffman, Chairman
COMPANY/AGENCY: French Ltd. Steering Group
RECIPIENT: Larry Thomas, U.S. E.P.A. Region VI
DOCUMENT TYPE: Correspondence
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Response to Information Request

DOCUMENT NUMBER: 68
DOCUMENT DATE: 01/17/85
NUMBER OF PAGES: 008
AUTHOR: Hazel Hoffman, Esq.
COMPANY/AGENCY: Atlantic Richfield Company
RECIPIENT: U.S. District Ct. Southern District of TX, Houston Division
DOCUMENT TYPE: Cover Letter
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: First Stipulation for Extension of Time

DOCUMENT NUMBER: 69
DOCUMENT DATE: 01/22/85
NUMBER OF PAGES: 010
AUTHOR: Ted Wall, Environmental Engineer, Superfund Technical Section
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Mr. Leo Dielmann III, Lockwood, Andrews and Newnam, Inc.
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: After Action Report on Remedial Action

DOCUMENT NUMBER: 70
DOCUMENT DATE: 02/01/85
NUMBER OF PAGES: 053
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: U.S. E.P.A., and the Texas Dept. of Water Resources
DOCUMENT TYPE: Work Plan - Response to EPA Request
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: French Ltd. Field Activities Work Plan

DOCUMENT NUMBER:
DOCUMENT DATE: 04/04/85
NUMBER OF PAGES: 070
AUTHOR: Jacky P. Cohen, Project Manager
COMPANY/AGENCY: Resource Engineering
RECIPIENT: Dan Porter, U.S. E.P.A.
DOCUMENT TYPE: Memorandum and Attachments
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Information relative to the French water well found at the French Ltd. site; recommendation that the well be completely closed, and methodology for closure of well

DOCUMENT NUMBER: 72
DOCUMENT DATE: 04/01/85
NUMBER OF PAGES: 160
AUTHOR: Unspecified
COMPANY/AGENCY: Lockwood, Andrews & Newnam, Inc.
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Remedial Investigation Volume I

DOCUMENT NUMBER: 73
DOCUMENT DATE: 04/01/85
NUMBER OF PAGES: 383
AUTHOR: Unspecified
COMPANY/AGENCY: Lockwood, Andrews & Newnam, Inc.
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Remedial Investigation Volume II - Appendices

DOCUMENT NUMBER: 74
DOCUMENT DATE: 04/08/85
NUMBER OF PAGES: 065
AUTHOR: Frances E. Phillips, Regional Administrator, Region VI
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Respondents
DOCUMENT TYPE: Administrative Order on Consent
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Administrative Order on Consent to conduct in accordance with NCP, the additional remedial investigations to determine fully the nature and extent of any threat to public health or welfare

DOCUMENT NUMBER: [illegible]
DOCUMENT DATE: [illegible]/85
NUMBER OF PAGES: [illegible]
AUTHOR: [illegible]
COMPANY/AGENCY: U.S. E.P.A. Region V.
RECIPIENT: Dan Porter, U.S. E.P.A. Region VI
DOCUMENT TYPE: Record of Communication
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Review of the Revised French Ltd. SARP

DOCUMENT NUMBER: 76
DOCUMENT DATE: 07/16/85
NUMBER OF PAGES: 042
AUTHOR: Frances E. Phillips
COMPANY/AGENCY: U.S. E.P.A. Region VI
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: First Amended Administrative Order on Consent
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: First Amended Administrative Order on Consent to conduct the additional remedial investigations described in the Work Plan, and to prepare a final remedial investigation report summarizing the results

DOCUMENT NUMBER: 77
DOCUMENT DATE: 11/26/85
NUMBER OF PAGES: 025
AUTHOR: Reed W. Newman, Senior Attorney, Environmental Enforcement Section
COMPANY/AGENCY: U.S. E.P.A. Region VI
RECIPIENT: Hazel R. Hoffman, Esq., Senior Attorney, Atlantic Richfield Company
DOCUMENT TYPE: Memorandum and Revised Consent Decree
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Revised Consent Decree between the Plaintiff and Certain Defendants

[illegible]

[illegible]: [illegible]
[illegible]: 12/04/85
[illegible]: 002
[illegible]: M. Peter Wynne
[illegible]: French Ltd. Task Group Steering Committee
[illegible]: Robert E. Hannesschlager, P.E., Chief,
Superfund Enforcement Branch U.S. E.P.A.
DOCUMENT TYPE: Memorandum and Technical Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Data on deep aquifer below the French Limited Lagoon

DOCUMENT NUMBER: 79
DOCUMENT DATE: 12/18/85
NUMBER OF PAGES: 070
AUTHOR: Unspecified
COMPANY/AGENCY: Unspecified
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Appendix - QAP
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Appendix for Quality Assurance Program

DOCUMENT NUMBER: 80
DOCUMENT DATE: 01/01/86
NUMBER OF PAGES: 045
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: 1985 Field Investigation Report

DOCUMENT NUMBER: 81
DOCUMENT DATE: 01/01/86
NUMBER OF PAGES: 354
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Field Investigation Report Appendices

DOCUMENT NUMBER:
DOCUMENT DATE: 12/14/85
NUMBER OF PAGES: 021
AUTHOR: United States of America
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Amoco Co.
DOCUMENT TYPE: Consent Decree
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Consent Decree between the Plaintiff and Certain Defendants

DOCUMENT NUMBER: 83
DOCUMENT DATE: 04/04/86
NUMBER OF PAGES: 001
AUTHOR: Bruce Blanchard; Director Office of Environmental Project Review
COMPANY/AGENCY: U.S. Dept. of Interior
RECIPIENT: Gene Lucero, Director, Office of Waste Programs Enforcement, U.S. E.P.A.
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Preliminary Natural Resources Survey

DOCUMENT NUMBER: 84
DOCUMENT DATE: 04/30/86
NUMBER OF PAGES: 574
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report Appendices
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Remedial Investigation Report Appendices Volume I

DOCUMENT NUMBER: 85
DOCUMENT DATE: 04/30/86
NUMBER OF PAGES: 382
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report Appendices
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Remedial Investigation Report Appendices Volume II

DOCUMENT NUMBER: [illegible]
DOCUMENT DATE: [illegible]/86
NUMBER OF PAGES: 456
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report Appendices
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Remedial Investigation Report Appendices Volume III

DOCUMENT NUMBER: 87
DOCUMENT DATE: 05/08/86
NUMBER OF PAGES: 001
AUTHOR: V. Peter Wynne, Chairman, French Ltd. Task Group
COMPANY/AGENCY: Atlantic Richfield Company
RECIPIENT: Robert Hanneschlager, Chief, Superfund Enforcement Branch, U.S. E.P.A.
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Groundwater samples loss

DOCUMENT NUMBER: 88
DOCUMENT DATE: 05/12/86
NUMBER OF PAGES: 032
AUTHOR: Robert E. Hanneschlager, P.E., Chief, Superfund Enforcement Branch
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: V. Peter Wynne, Esquire, French Ltd. Task Group, Atlantic Richfield Company
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Comments on the April 1986 revised "French Limited Remedial Investigation Report"

DOCUMENT NUMBER: 89
DOCUMENT DATE: 06/01/86
NUMBER OF PAGES: 243
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Remedial Investigation Report

DOCUMENT NUMBER: 9?
DOCUMENT DATE: 06/01/86
NUMBER OF PAGES: 026
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report/Workplan
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Proposed 1986 Field Investigation

DOCUMENT NUMBER: 91
DOCUMENT DATE: 12/01/86
NUMBER OF PAGES: 067
AUTHOR: Unspecified
COMPANY/AGENCY: Resource Engineering
RECIPIENT: U.S. E.P.A. Region VI, and the Texas Water Commission
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Laboratory Evaluation of Biodegradation at the French Ltd. site

DOCUMENT NUMBER: 92
DOCUMENT DATE: 12/19/86
NUMBER OF PAGES: 188
AUTHOR: Unspecified
COMPANY/AGENCY: Applied Hydrology Association, Inc.
RECIPIENT: French Ltd. Task Group, and ARCO
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Hydrology Report

DOCUMENT NUMBER: 93
DOCUMENT DATE: 01/05/87
NUMBER OF PAGES: 011
AUTHOR: Hoyt C. Clark, Senior Project Manager
COMPANY/AGENCY: ERT - A Resource Engineering Co.
RECIPIENT: R. L. Sloan, ARCO Chemical Co.
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Final ERT comments on draft Endangerment Assessment

[illegible]
DOCUMENT DATE: [illegible]
NUMBER OF PAGES: 08
AUTHOR: Unspecified
COMPANY/AGENCY: ERT - A Resource Engineering Company
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Encargement Assessment Report

DOCUMENT NUMBER: 95
DOCUMENT DATE: 03/01/87
NUMBER OF PAGES: 543
AUTHOR: Unspecified
COMPANY/AGENCY: Lockwood, Andrews & Newnam, Inc.
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Feasibility Study Report - French Limited Superfund Site, Harris County, Texas

DOCUMENT NUMBER: 96
DOCUMENT DATE: 03/11/87
NUMBER OF PAGES: 022
AUTHOR: Frances E. Phillips, Regional Administrator, Region VI
COMPANY/AGENCY: U.S. E.P.A
RECIPIENT: Respondents
DOCUMENT TYPE: Administrative Order on Consent
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Administrative Order on Consent to conduct a bioremediation study to study the feasibility of using bioremediation as a possible remedy, and to prepare a final report describing results of the study

DOCUMENT NUMBER: 97
DOCUMENT DATE: 03/16/87
NUMBER OF PAGES: 001
AUTHOR: Carl E. Edlund, Chief, Superfund Section
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Bryan Dixon, Texas Water Commission
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Request for concurrence with preferred remedial action

DOCUMENT NUMBER: [illegible]
DOCUMENT DATE: 03/11/87
NUMBER OF PAGES: 014
AUTHOR: Robert W. Davis, P.E., Project Manager
COMPANY/AGENCY: CH2M Hill
RECIPIENT: Larry Thomas, Ph.D., Remedial Project Manager, U.S. E.P.A.
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Review comments on the ERT Endangerment Assessment Report

DOCUMENT NUMBER: 99
DOCUMENT DATE: 03/30/87
NUMBER OF PAGES: 270
AUTHOR: Unspecified
COMPANY/AGENCY: ERT - A Resource Engineering Co.
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: QAPP: In-Situ Biodegradation Demonstration Phase III

DOCUMENT NUMBER: 100
DOCUMENT DATE: 04/01/87
NUMBER OF PAGES: 035
AUTHOR: Unspecified
COMPANY/AGENCY: CH2M Hill
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Endangerment Assessment

DOCUMENT NUMBER: 101
DOCUMENT DATE: 04/01/87
NUMBER OF PAGES: 004
AUTHOR: Unspecified
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Public
DOCUMENT TYPE: Superfund Fact Sheet
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Remedial Investigation/Feasibility Study, Public Meeting - French Ltd. Site, Crosby, Texas

DOCUMENT NUMBER:
DOCUMENT DATE: 04/07/87
NUMBER OF PAGES: 1/5
AUTHOR: Unspecified
COMPANY/AGENCY: EST - A Resource Engineering Company
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Memorandum and Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Proposed In-Situ Biodegradation Demonstration - Phase III - Rev. 5

DOCUMENT NUMBER: 103
DOCUMENT DATE: 04/07/87
NUMBER OF PAGES: 005
AUTHOR: R. L. Sloan, Special Projects Manager
COMPANY/AGENCY: ARCO Chemical Company
RECIPIENT: R. E. Hanneschlager, Chief, Superfund Enforcement Branch, U.S. E.P.A.
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Revisions to workplan for the Proposed In-Situ Biodegradation Demonstration, French Limited Site - Phase III; Revision 5, 04/07/87

DOCUMENT NUMBER: 104
DOCUMENT DATE: 04/14/87
NUMBER OF PAGES: 048
AUTHOR: Unspecified
COMPANY/AGENCY: EST - A Resource Engineering Company
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Field Evaluation of Biodegradation (Phase II) Vol. II

DOCUMENT NUMBER: 105
DOCUMENT DATE: 04/15/87
NUMBER OF PAGES: 001
AUTHOR: R. L. Sloan, Special Project Manager
COMPANY/AGENCY: ARCO Chemical Co.
RECIPIENT: Robert E. Hanneschlager, Chief, Superfund Enforcement Branch, U.S. E.P.A.
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Transmittal of Quality Assurance Project Plan Report of 03/30/87

DOCUMENT DATE: 04/16/87
NUMBER OF PAGES: 004
AUTHOR: Robert E. Layton, Jr. Regional Administrator, Region VI
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Respondents
DOCUMENT TYPE: Administrative Order on Consent
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Administrative Order on Consent to conduct an in-situ bioremediation study to study the feasibility of using bioremediation as a remedial action, and to prepare a report describing the results

DOCUMENT NUMBER: 107
DOCUMENT DATE: 04/20/87
NUMBER OF PAGES: 003
AUTHOR: Sheldon E. Steinbach, General Counsel
COMPANY/AGENCY: American Council on Education
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Information Request (FOIA)
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Communications Re: Violations of statutes

DOCUMENT NUMBER: 108
DOCUMENT DATE: 04/24/87
NUMBER OF PAGES: 030
AUTHOR: R. L. Blair, Special Projects Manager
COMPANY/AGENCY: ARCO Chemical Company
RECIPIENT: Robert E. Hannesschlager, U.S. E.P.A.
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Addendum to French Ltd. Site Quality Assurance Project Plan

DOCUMENT NUMBER: 109
DOCUMENT DATE: 04/30/87
NUMBER OF PAGES: 001
AUTHOR: Harold Scarlett, Post Environment Writer
COMPANY/AGENCY: The Houston Post
RECIPIENT: Public
DOCUMENT TYPE: Newspaper Article
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: "Group to Give EPA Site Cleanup Ideas"

DOCUMENT NUMBER: [illegible]
DOCUMENT DATE: [illegible]
NUMBER OF PAGES: [illegible]
AUTHOR: [illegible]
COMPANY/AGENCY: ERT - A Resource Engineering Co.
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Site Safety & Health Plan Phase III, Revision 3

DOCUMENT NUMBER: 111
DOCUMENT DATE: 05/01/87
NUMBER OF PAGES: 124
AUTHOR: Unspecified
COMPANY/AGENCY: ERT - A Resource Engineering Company
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Focused Feasibility Study

DOCUMENT NUMBER: 112
DOCUMENT DATE: 05/21/87
NUMBER OF PAGES: 044
AUTHOR: On The Record Reporting
COMPANY/AGENCY: Unspecified
RECIPIENT: U.S. E.P.A. Region VI
DOCUMENT TYPE: Transcript
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Public Meeting - French Ltd.

DOCUMENT NUMBER: 113
DOCUMENT DATE: 06/16/87
NUMBER OF PAGES: 010
AUTHOR: Robert E. Layton, Jr., Regional Administrator, Region VI
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Respondents
DOCUMENT TYPE: First Amended Administrative Order on Consent
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: First Amended Administrative Order on Consent to add four additional respondents

DOCUMENT NUMBER: [illegible]
DOCUMENT DATE: 07/[illegible]/87
NUMBER OF PAGES: 00[illegible]
AUTHOR: Christine E. McClure
COMPANY/AGENCY: Peterson, Ross, Schloerb & Seidel Law Firm
RECIPIENT: Nita House, FOIA, U.S. E.P.A.
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: French Ltd. FOIA request

DOCUMENT NUMBER: 115
DOCUMENT DATE: 07/10/87
NUMBER OF PAGES: 160
AUTHOR: Unspecified
COMPANY/AGENCY: ERT - A Resource Engineering Company
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Revised Field Evaluation of Biodegradation at the French Ltd. Site (Phase II) Volume I (March 10, 1987; Revised 07/10/87)

DOCUMENT NUMBER: 116
DOCUMENT DATE: 07/20/87
NUMBER OF PAGES: 001
AUTHOR: Larry Thomas, Ph.D.
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: Christine McClure, Peterson, Ross, Schloerb & Seidel Law Firm
DOCUMENT TYPE: Memorandum
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Response to FOIA request

DOCUMENT NUMBER: 117
DOCUMENT DATE: 11/23/87
NUMBER OF PAGES: 014
AUTHOR: Unspecified
COMPANY/AGENCY: ERT - A Resource Engineering Company
RECIPIENT: U.S. E.P.A., and the Texas Water Commission
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Biodegradation Equipment Evaluation - Phase IV French Ltd. Site (October, 1987; Revised 11/23/87)

DOCUMENT NUMBER: [illegible]
DOCUMENT DATE: [illegible]/87
NUMBER OF PAGES: 187
AUTHOR: R. L. Sloan, Special Projects Manager
COMPANY/AGENCY: ERT - A Resource Engineering Company
RECIPIENT: Robert E. Hanneschlager, U.S. E.P.A.
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: In-Situ Biodegradation Demonstration Report Volume I, Executive Summary (October 30, 1987; Revised 12/15/87)

DOCUMENT NUMBER: 119
DOCUMENT DATE: 12/22/87
NUMBER OF PAGES: 021
AUTHOR: R. L. Sloan, Special Projects Manager
COMPANY/AGENCY: ARCO Chemical Company
RECIPIENT: R.E. Hanneschlager, U.S. E.P.A.
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Workplan describing the installation of five shallow aquifier monitor wells, designed to allow sampling and analysis of shallow groundwater downgradient from the French Ltd. Site

DOCUMENT NUMBER: 120
DOCUMENT DATE: 01/11/88
NUMBER OF PAGES: 010
AUTHOR: Hoyt C. Clark, Senior Project Manager
COMPANY/AGENCY: ERT - A Resource Engineering Company
RECIPIENT: R. L. Sloan, ARCO Chemical Company
DOCUMENT TYPE: Memorandum and attachment
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: ERT response comments to EPA memo regarding EPA comments on the French Ltd. Biodegradation Air Monitoring Study

[illegible]
[illegible]
[illegible]
AUTHOR: Unspecified
COMPANY/AGENCY: Lockwood, Andrews & Newnam, Inc.
RECIPIENT: Texas Dept. of Water Resources
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Work Plan Volume I Project Activity and Sampling Plan

DOCUMENT NUMBER: 122
DOCUMENT DATE: Undated
NUMBER OF PAGES: 009
AUTHOR: Unspecified
COMPANY/AGENCY: ERT - A Resource Engineering Company
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Remedial Objectives and Alternatives

DOCUMENT NUMBER: 123
DOCUMENT DATE: Undated
NUMBER OF PAGES: 027
AUTHOR: Royal J. Nadeau, Ph.D., Environmental Response Team
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: U.S. E.P.A. Region VI
DOCUMENT TYPE: Final Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: An investigation of the French Limited Abandoned Hazardous Waste Site - Crosby, Texas

DOCUMENT NUMBER: 124
DOCUMENT DATE: Undated
NUMBER OF PAGES: 001
AUTHOR: Unspecified
COMPANY/AGENCY: U.S. E.P.A.
RECIPIENT: U.S. E.P.A. Files
DOCUMENT TYPE: Site History
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Historical overview of French Ltd.

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
DOCUMENT TYPE: DC Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Matrix spike analysis of samples

DOCUMENT NUMBER: 126
DOCUMENT DATE: Undated
NUMBER OF PAGES: 001
AUTHOR: NUS Corporation
COMPANY/AGENCY: Halliburton Company
RECIPIENT: U.S. E.P.A. Region VI
DOCUMENT TYPE: French Ltd. Summary Letter
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Summary Letter

DOCUMENT NUMBER: 127
DOCUMENT DATE: Undated
NUMBER OF PAGES: 001
AUTHOR: NUS Corporation
COMPANY/AGENCY: Halliburton Company
RECIPIENT: U.S. E.P.A. Region VI
DOCUMENT TYPE: Summary Letter
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Summary Letter

DOCUMENT NUMBER: 128
DOCUMENT DATE: Undated
NUMBER OF PAGES: 002
AUTHOR: NUS Corporation
COMPANY/AGENCY: Halliburton Company
RECIPIENT: U.S. E.P.A. Region VI
DOCUMENT TYPE: Summary Letter
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Summary Letter

[illegible]
[illegible]
[illegible]
[illegible]
AUTHOR: NUS Corporation
COMPANY/AGENCY: Halliburton Company
RECIPIENT: U.S. E.P.A. Region VI
DOCUMENT TYPE: Summary Letter
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Summary Letter

DOCUMENT NUMBER: 130
DOCUMENT DATE: Undated
NUMBER OF PAGES: 002
AUTHOR: NUS Corporation
COMPANY/AGENCY: Halliburton Company
RECIPIENT: U.S. E.P.A. Region VI
DOCUMENT TYPE: Summary Letter
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Summary Letter

DOCUMENT NUMBER: 131
DOCUMENT DATE: Undated
NUMBER OF PAGES: 002
AUTHOR: NUS Corporation
COMPANY/AGENCY: Halliburton Company
RECIPIENT: U.S. E.P.A. Region VI
DOCUMENT TYPE: Summary Letter
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Summary Letter

DOCUMENT NUMBER: 132
DOCUMENT DATE: Undated
NUMBER OF PAGES: 002
AUTHOR: NUS Corporation
COMPANY/AGENCY: Halliburton Company
RECIPIENT: U.S. E.P.A. Region VI
DOCUMENT TYPE: Summary Letter
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Summary Letter

[illegible]
[illegible]
[illegible]
[illegible]
COMPANY/AGENCY: [illegible]
RECIPIENT: [illegible]
DOCUMENT TYPE: Response to Comments
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Responses to EPA comments of May, 1986; Original comment, March, 1986

DOCUMENT NUMBER: 134
DOCUMENT DATE: Undated
NUMBER OF PAGES: 043
AUTHOR: Unspecified
COMPANY/AGENCY: West Coast Technical Service, Inc.
RECIPIENT: U.S. E.P.A.
DOCUMENT TYPE: Sample Report
DOCUMENT FLAG CODE:
REFERENCE:
DOCUMENT TITLE: Organics Analysis Data Sheets, and Chain of Custody Forms

APPENDIX B

COMMUNITY RELATIONS AND RESPONSIVENESS SUMMARY

COMMUNITY RELATIONS RESPONSIVENESS SUMMARY FOR FRENCH LIMITED SUPERFUND SITE

This community relations responsiveness summary is divided into two sections:

Section I: Background on Community Involvement and Concern

This section provides a brief history of community interest and concern raised during the remedial planning activities.

Section II: Summary of Major Comments Received During the Public Comment Period and EPA Responses.

Both written and spoken comments are categorized by topics. EPA responses to these topics are also presented.

I. Background on Community Involvement

The French Limited site was proposed for the National Priorities List (NPL) in December 1982. On April 13, 1983, the Texas Department of Water Resources, now the Texas Water Commission (TWC), announced the receipt of funding from the U.S. Environmental Protection Agency (EPA) for the purpose of investigating the French Limited abandoned hazardous waste site in northeast Harris County. In June 1983 high waters caused the holding pond at French to overflow and PCB-laced sludge escaped. An EPA emergency response team removed 25 truckloads of sludge from the site. TWC conducted the Remedial Investigation/Feasibility Studies (RI/FS) on the site. The studies were completed in the Spring of 1987.

On April 28, 1987, EPA announced through a press release and fact sheet that the RI/FS has been completed on the site. The announcement also advised that public meeting would be held on May 21, 1987, at the Crosby High School, Crosby, Texas to discuss the EPA preferred remedy of incineration and a proposed remedy of biological treatment by the French Limited Task Group. The information release provided that written comments on the proposal would be accepted beginning May 11, 1987, through June 1, 1987, and that a decision would be made by the end of year.

EPA conducted the public meeting on the proposed remedies on May 21, 1987. About 70 people attended. Citizens mainly commented that the waste should be taken to an offsite disposal facility rather than incineration onsite.

During 1983, a group of companies identified as having used the site for disposal, referred to as "Potentially Responsible Parties" (PRPs), formed the French Limited Task Group to fund independent studies on potential remedies for the site. On March 11, 1987, EPA signed an enforcement agreement referred to as an Administrative Order (AO) with the French Limited Task Group which allowed the group to undertake a pilot scale testing of biological treatment systems on the site. This study was to be completed by the end of October 1987 and clearly demonstrate that biological treatment would be as effective and timely as incineration and meet all applicableor, relevant and appropriate state and federal requirements. The PRPs would also be allowed to conduct community relations activities with EPA oversight.

In May 1987 the Task Group initiated a community relations program to provide communications channels to residents and other interested parties about site activities. On May 13, 1987, the French Limited Task Group held a public meeting in Crosby, Texas, to advise the community about the bio-degradation pilot project. EPA Superfund project managers attended the meeting and provided updated information on EPA studies. The Group also announced the establishment of a Community Information Line for residents seeking additional information on the site. Community leaders were invited to attended a meeting on May 19 to learn more about the site status.

The French Limited Task Group held additional community leaders meetings for the purpose of providing site activities status reports on June 11, 1987, July 21, 1987, August 12, 1987, September 29, 1987, October 28, 1987, November 18, 1987, December 17, 1987, January 22, 1988 and February 17, 1988. EPA representatives attended these meetings and provided EPA site status reports.

On August 18, 1987, the French Limited Task Group held a community meeting for Riverdale residents. About 50 people attended the meeting and received the site updates from the Group and EPA representatives. A similar meeting was held in Barrett Station on August 19 and about 65 residents attended.

The Task Group held additional community meetings to provide site status updates in Barrett Station on October 27 and in Riverdale on October 28. About 112 people attended the meeting in Barrett Station and about 60 people attended the Riverdale meeting. EPA representatives were also present.

In November 1987, public misunderstandings arose about possible contamination from the French and Sikes sites in several drinking water wells. This confusion was the result of a meeting held on November 14 scheduled by residents and attended by an ATSDR official. Although data from the wells gave no indication of contamination from the sites, EPA agreed to sample wells of seven residents and a monitoring well. The sampling took place on December 15, 1987. Also, EPA representatives agreed to attend a community meeting on December 14 in order to clarify the water well data and to further assure residents that there was no indication of well contamination resulting from French or Sikes. However, on December 9, 1987, when an EPA representative called the community leaders to confirm the date and location of the meeting, she was advised that the residents would not meet with EPA and the meeting was cancelled.

On January 4, 1988, J. Winston Porter, Assistant Administrator, Office of Solid Waste and Emergency Response, EPA, Washington, D.C. held a community meeting to discuss the status of Superfund sites in the Houston area. The meeting was held at the Crosby Library, Crosby, Texas. About 75 people attended and requested more detailed information on the water well matter. Through the news media and telephone calls to interested residents, EPA announced that the follow-up public meeting would be held January 28, 1988 at the Crosby Library.

On January 21, 1988, EPA announced through the news media that the Task Group pilot study for bioremediation had been reviewed by EPA and that a public comment period on the new EPA preferred remedy would begin on January 25, 1988, and conclude on February 23, 1988. Also this announcement included details about a public meeting to receive comments on the proposal to be held on February 11 at the Crosby High School, Crosby, Texas. A listing of the repositories, where all studies/investigations and other documents concerning the French Limited site could be reviewed, was included in the press release. The press release was mailed to the area news media and the French Limited site mailing list. Announcement of a proposed actions appeared in the Houston Chronicle on January 22, 1988, the Houston Post on January 23, 1988, and the Community News January 27, 1988. Also, on January 22, 1988, the EPA representative attending the Task Group Community leaders luncheon announced the February 11 public meeting, the public comment period timeframe and he left copies of the new release for public dissemination. A four page fact sheet on the proposed remedy was mailed to residents and the media following the press release mailing. Copies of all documents relative to the pilot study were placed in the site repositories on January 22, 1988, per the AO.

EPA representatives held the January 28, 1988, community meeting to announce the results of the water well sampling and to clarify other areas of concern. Prior to the meeting at the Crosby Library, EPA and ATSDR representatives delivered copies of the water well data to the residents whose wells were sampled and explained that none of the contaminants from the French Limited or Sikes sites were found in the wells. About 150 residents attended the evening community meeting.

During the afternoon of February 11, 1988, EPA representatives briefed state elected officials on the preferred remedy. EPA conducted the public meeting on the proposed remedy on the evening of February 11, at the Crosby High School. Citizens reiterated their comments from the May public meeting that the waste should be disposed offsite. About 150 people attended the meeting.

II. Summary of Public Comments

This section is divided into two parts. Part A includes comments received during the public comment period from January 25 to February 23, 1988, including the public meeting held on February 11, 1988. Part B includes comments received at a community meeting held on January 28, 1988. EPA responses to comments received during the comment period held from May 11 to June 1, 1987, regarding the originally proposed incineration remedy, have been incorporated into the Administrative Record for French Limited.

PART A: Summary of Comments Received During the Public Comment Period and Agency Responses from January 25 to February 23, 1988.

Comment #1

The available PCB data has confirmed that over 90% of the PCBs originally present in the demonstration area were destroyed.

EPA Response to Comment #1

EPA disagrees. Analytical results from the demonstration indicate that the concentrations of PCBs decreased during the demonstration. No data was presented to show what portion of the decrease is specifically attributable to degradation.

Comment #2

It is not necessary that bioremediation equal or exceed the effectiveness of incineration.

EPA Response to Comment #2

EPA disagrees. Bioremediation must meet or exceed the cleanup criteria established for the contaminated soils and sludges at the site. Biological treatment must also work as quickly as onsite incineration.

Comment #3

A final decision on the need for residue solidification can only be made after the results of residue testing are available.

EPA Response to Comment #3

EPA disagrees. Based on the results of the pilot study, the health-based criteria for PCBs was not attained. Therefore, stabilization of the residue is a necessary component of the remedy.

Comment #4

The post-closure monitoring period should be reduced from 30 years to 5 years.

EPA Response to Comment #4

EPA disagrees. A 30-year post-closure monitoring period is required under 40 CFR Part 264.117(a)(1). EPA deems the period appropriate, particularly given the proximity of the Riverdale residential subdivision to the site.

Comment #5

The cleanup criterion for PCBs at the site should be increased from 23 ppm to 50 ppm because both concentrations would provide equivalent levels of protection.

EPA Response to Comment #5

EPA disagrees. The cleanup criteria were established based on an endangerment assessment conducted in April 1987. Five criteria were identified in the assessment and were subsequently used to estimate the volume of sludge and

soil requiring treatment. Increasing the PCB criterion from 23 ppm to 50 ppm could possibly decrease the volume of material to be treated. The effect of this change would be to allow higher concentrations of other, more mobile contaminants to remain in the soil. This would increase the possibility of continued contamination of the upper aquifer. EPA believes, therefore, that the 23 ppm PCB criterion is appropriate.

Comment #6

The surface water discharge criteria for the lagoon water should be set at a combined chemical and biological oxygen demand level of 10 ppm.

EPA Response to Comment #6

EPA disagrees. Discharge standards based on the specific contaminants found at the site would be more appropriate.

Comment #7

Would it be possible to build a tank onsite as a biological treatment unit.

EPA Response to Comment #7

It may be possible, but is not necessary. The current conceptual design of isolating 2.5 acres of the lagoon with sheet piles is essentially the equivalent of a separate reactor. Waste treatment in the lagoon would also minimize excavation of the waste, reducing air emissions during remediation.

Comment #8

Will waste from other sites be brought into French Limited?

EPA Response to Comment #8

No. Wastes from other sites will not be brought to French Limited.

Comment #9

How will the residue from the biological treatment system be handled?

EPA Response to Comment #9

The treatment residue will be dewatered, stabilized, and used as fill material in the lagoon. The residue will be tested to show that the stabilized mass will not generate leachate that will contaminate the upper aquifer. The specific methods for residue handling will be developed during remedial design.

Comment #10

What volatile organic compounds were found at the site? What were the concentrations found?

EPA Response to Comment #10

The concentration ranges for contaminants found at French Limited are listed in Table 1-2 of the Feasibility Study written by Lockwood, Andrews, and Newnam.

Comment #11

Biological treatment will result in a significant increase in air pollution in the vicinity of the site.

EPA Response to Comment #11

Some air emissions will occur during biological treatment. However, air monitoring performed during the pilot study indicated that the emissions, 1% to 5% of the threshold limit values for the volatile compounds onsite, would not constitute a public health threat.

Comment #12

Offsite disposal was not considered as an alternative.

EPA Response to Comment #12

Offsite disposal was eliminated during the initial phases of the feasibility study for the following reasons: Section 121 of the Superfund Amendments and Reauthorization Act clearly states a preference for onsite remedies involving waste treatment. Section 121 goes on to state that these remedies shall be selected to the maximum extent practiceable. Also, recently enacted land disposal restrictions require significant treatment of the waste prior to disposal in a landfill.

Comment #13

Is the soil in the Riverdale subdivision contaminated?

EPA Response to Comment #13

Based on surface soil samples taken during the remedial investigation, no contamination was found in the subdivision.

Comment #14

Biological treatment was rejected at Sikes because it was untested. Why is it being recommended for French Ltd., which has similar types of waste?

EPA Response to Comment #14

Remedies are selected on a site-specific basis. It is applicable to French Limited because it can be implemented in the lagoon where the wastes are located with few construction and materials handling considerations. At Sikes a treatment unit would have to be built onsite. The land area available for construction would limit the size of the basin to be built, potentially legthening the time required to implement the remedy. Excavation and transport of the waste, spread over 185 acres, would also be required. These considerations make biodegradation unattractive at Sikes.

Comment #15

How will the property values in the area be affected by the site?

EPA Response to Comment #15

EPA does not know how property values may be affected by the site.

Comment #16

Signs warning of possible contamination in the fishing hole and north slough should be posted along U.S. Highway 90.

EPA Response to Comment #16

EPA is currently looking into posting signs along Highway 90.

Comment #17

Have chemicals from French or Sikes contaminated the drinking water in Riverdale?

EPA Response to Comment #17

Analytical results of samples taken from the shallow wells in Riverdale in December 1987 indicate that the drinking water has not been contaminated from either site.

Comment #18

Does biological treatment really work and is it safe?

EPA Response to Comment #18

Yes, biological treatment does work. Data generated in the pilot study indicates that the organic contaminants, with the exception of the PCBs, are reduced to concentrations below the cleanup criteria. The PCBs and arsenic can be controlled by stabilization of the treatment residue.

Comment #19

What is the relationship of the Potentially Responsible Parties at French to the EPA?

EPA Response to Comment #19

All of the work performed by the Potentially Responsible Parties was done under an Administrative Order issued by EPA. EPA reviews the plans and reports generated under the Order and oversees the onsite activities conducted by the PRPs.

Comment #20

Was the dike around the lagoon at French built with contaminated soil from Sikes?

EPA Response to Comment #20

No. Samples of the sand used in the dike were taken prior to construction. The analytical results indicated that the sand was not contaminated.

Comment #21

How many studies were conducted and how much money has been spent on French Ltd.?

EPA Response to Comment #21

Three studies have been conducted. The remedial investigation and feasibility study conducted by EPA and the TWC cost about $1.5 million. The French Limited Task Group spent almost $5 million on the pilot study. The Task Group has also reimbursed Superfund for $965,000 for removal actions conducted at the site.

Comment #22

EPA did not consider relocation of the residents as part of any remedial alternative.

EPA Response to Comment #22

EPA does not believe that relocation is an appropriate component of the remedy at French Ltd. Relocation is authorized when implementation of a remedy would not provide adequate protection of public health or when buildings are located on land necessary for implementation of a remedy. Neither of these conditions exists at French.

Comment #23

EPA should consider a health monitoring program as part of the selected remedy.

EPA Response to Comment #23

After review, EPA has determined that a health monitoring program would provide no additional protection from the hazards from French Limited. Data generated in the remedial investigation shows that the contaminants from the site have not migrated to drinking water supplies and are not currently contaminating the air. Groundwater monitoring will be conducted after completion of the remedy to ensure that drinking water supplies in the vicinity of the site are safe.

The Agency for Toxic Substances and Disease Registry has expressed a willingness to assist the public in developing a private health monitoring program, should a citizens' group wish to pursue such a program on its own.

Comment #24

Table 4 in the draft "Summary of Remedial Alternatives" should be revised to indicate that onsite incineration is "an effective alternative," not the "most effective alternative. The rationale for this alternative should also indicate that air emissions risks may exist and that implementation is "complex" not "simple."

EPA Response to Comment #24

Onsite incineration of sludges and soils (Alternative 1) is considered the most effective alternative evaluated. This is based on the complete destruction of the organic contaminants onsite. Performance standards for air emissions from incinerators would be met, minimizing the risk from these emissions. EPA considers the implementation of an incinerator to be relatively simple in comparison to the other alternatives evaluated in the summary. EPA believes that the ratings given to the alternatives in this table are appropriate.

Comment #25

The Federal Government should have a facility to dispose of these types of wastes.

EPA Response to Comment #25

As a governmental agency, EPA is not and should not be in the business of handling and disposing of wastes. EPA believes that these functions, including the ownership and operation of offsite disposal facilities, is best left to the private sector.

PART B: Summary of Community Meeting Held on January 28, 1988.

ATTENDEES:
- o Approximately 150 area residents and other concerned citizens.
- o Representatives of the Environmental Protection Agency (EPA), Agency for Toxic Substances and Disease Registry (ATSDR), and Texas Water Commission (TWC).

PURPOSE: This informal meeting was held at the request of residents of Crosby, the Riverdale subdivision, the Rogge subdivision and the Barrett Station subdivision to discuss hazardous waste pollution at the French Ltd. and Sikes Superfund sites, as well as other possible hazardous waste problems in the area. This was a followup meeting to a January 4, 1988, meeting between Dr. J. Winston Porter (EPA's Assistant Administrator for the Office of Solid Waste and Emergency Response) and community leaders in the area. Since citizen concerns covered a wide range of environmental issues, an effort was made to have all the key federal and state officials available to respond to questions. This record was prepared to summarize the response to issues raised at the January 28 meeting.

MEETING SUMMARY: Mr. Edlund opened the meeting at 6:30 pm and indicated that a record of the meeting would be prepared for attendees and other interested persons. Because of the wide range of topics, it is being entered in the records of both the Sikes and French Ltd. Superfund sites.

Numerous comments regarding hazardous waste had appeared on January 27, 1988, in the The Community News, a local newspaper. In addition, questions were compiled and presented to EPA by Mr. David Shade of the Rogge subdivision a few minutes before the meeting began. The questions contained in these documents were addressed in sequence by the federal and state representatives.

A. "The Community New" "article entitled "Whiddon Fed up with 'Double Talk'/ Whiddon wants facts" by Robert Vanya dated 1/27/88

1. Question: "Have chemicals from the dumps contaminated the drinking water?"

   Response: No. EPA found no correlation between contaminants in the Riverdale residential water wells sampled on December 15, 1987, and contaminants found in the French Limited and Sikes sites. Contaminants found were those commonly associated with analytical laboratory equipment and PVC pipe used in water well construction.

2. Question: "Is bioremediation (the cleanup method being used at French Limited) really working and is it really safe?"

   Response: Yes, to both questions. EPA believes bioremediation will be effective if combined with treatment of the groundwater, and solidification of the residue. For this reason EPA proposed this approach for the French Ltd. site. A public meeting to discuss the French remedy was scheduled for February 11, 1988. Mr. Edlund asked that detailed questions regarding the French remedy be deferred to that forum.

3. Question: "Is bioremediation causing harmful air emissions?

   Response: No, EPA does not believe harmful levels are or will be produced. This conclusion is based on the data gathered by the French Task Force at the in situ biological remediation pilot project.

4. Question: When will incineration start at the Sikes site?

   Response: EPA anticipates that incineration will start in about two years.

5. Question: "What will the effects of incineration of wastes at the Sikes dump be?"

   Response: EPA does not anticipate any detrimental results or effects of incinerating Sikes waste. Incineration at Sikes will take place after the Remedial Design. The Design will be made available for review and comments. This fall we will post the list of requirements for the design which will address noise and air emissions.

6. Question: "Why is there no protective fence around the Sikes site"?

   Response: A fence was proposed in June 1986, to be erected as part of the incineration project. Until EPA received the recent comments about the frequency of illegal trespassing on the site, no urgency was given to this aspect of the remedy. Based on the citizen concerns voiced in December 1987 and January 1988, EPA announced that a fence would be erected in the near future to prevent access to the waste on the Sikes site.

   In follow-up discussions by attendees two related questions were asked: a) will EPA post "no fishing" and/or "no trespassing signs", and b) will EPA erect the fence across the private access road that traverses the French site? EPA agreed to look into erecting signs but indicated that blocking the road was not planned because there was no evidence that the road itself is a hazard. Also EPA did not have any evidence that the sand hauled in the trucks is contaminated.

   UPDATE: EPA began fence construction on March 7, 1988.

B. "Proposed Questions for EPA Representatives" - A list of 26 questions compiled by Mr. David Shea was presented to the representative at the beginning of the meeting (Attachment #3). Responses to questions discussed at the meeting are summarized below (the numbering matches that in the attachment). Written responses to questions that were not explicitly addressed are contained in Section D.

7. Question: "Why has there been so many cancer related deaths and people with nerve disorders and lung disease in this area?"

- and -

8. Question: "We feel someone should have done a health survey in our community. With these dangerous chemicals in our area, why wasn't one conducted? (There appears to have been numerous cancer related deaths in our community)."

   Response: While some statistical summaries show relatively high incidents of cancer in Harris County, the federal and state agencies were not aware of any data for the Crosby area. Any information of this nature would be gladly reviewed by health advisory agencies such as ATSDR and the State Department of Health.

   EPA does not take action at hazardous waste sites based on health studies for two reasons:

   a. Timing - chemicals that cause cancer often take many years to have an affect (e.g. mesothelioma, an incurable lung cancer caused by asbestos, takes 20 to 30 years to develop after asbestos ingestion). It would be poor public policy to defer action at a hazardous waste site pending a study lasting several decades.

   b. Ambiguity of results - Because chronic disease, such as cancer can be caused by a wide variety of factors acting singly, or in combination and often over periods of years, a health study could never determine the extent that the hazardous waste sites in question harmed anyone in the area. Exposure of area residents to former levels of pollution from the sites is unquantified as is their exposure to other chemicals in the home or at work. While some factors that contribute to cancer (such as tobacco use, diet, and possibly heredity) might be able to be documented, the unquantified factors plus other, as yet undiscovered causes of disease, would render the results ambiguous.

   Instead of performing site by site health studies before acting. EPA uses all the scientific information know about the contaminants to determine if a site poses a potential risk to human health as the basis for cleanup.

Questions 9-13 restate the issues posed in the newspaper article. EPA's reponses to these questions are summarized above.

9. Question: Have chemicals from the dumps contaminated our drinking water?"

10. Question: Is bioremediation causing harmful air emissions?"

11. Question: When will incineration start at the Sikes Dump?

12. Question: What will the effects of incineration of wastes at the Sikes Dump be?

13. Question: Why is there no protective fence around the Sikes site?

14. Question: Where is well GW-25? Where are the test results on this well that Larry Thomas took in December?

    Response: GW-25 is located along Gulf Pump Road between the Sikes Disposal Pits and the Riverdale subdivision. The analytical results from the samples taken on December 15, 1987, can be found in the reposities.

15. Question: Is the sand contaminated, like it shows on your research, if so why was the public allowed to purchase this sand?

    Response: Samples taken from areas where sand was sold were not contaminated.

16. Question: How do we clean up the sand that was hauled to the Public Library, Post Office, our Schools, and Little League Ball Parks?

    Response: EPA does not know if the sand is contaminated in these areas. We will pursue the sampling and take action if deemed necessary.

17. Question: What danger are our children in when they have played in the sand that now shows to be contaminated?

    Response: This is difficult to assess because the effects are long term and the frequency of exposure and concentrations of contaminants are not known.

18. Question: "Why was the road, across Sikes Chemical Dump, allowed to stay open, although the research states there is danger from spreading the chemicals on the general public using Highway 90?"

    Response: The private road, composed of clean fill, is not in and of itself hazardous. This road is laid over contaminated soils however, which will be excavated for incineration in the future. At that time this road may be closed.

    The "research" cited was explained to be the Sikes Site RI/FS reports prepared for TWC by Lockwood, Andrews, and Newnam.

19. Question: "Is there some connection between one of the Responsible Parties at French Limited and the EPA?"

    Response: No.

19. Question: "Is there some connection between one of the Responsible Parties at French Limited and the EPA?"

Response: No.

20. Question: "We believe that one of the responsible parties at the French Limited also owns a large track of land behind Sikes Dump and otherwise would not have access to their property. Can you comment on this?"

Response: This may be true. However, EPA data indicates that the land and access road in question are not contaminated. EPA has no authority, therefore, to prevent the current business from operating.

21. Question: How do you go about establishing the safe drinking water standards? Does your research consider the bathing, cooking, and drinking, in the amount that the consider safe for human consumption? What is the normal in-take per child or per adult?

Response: EPA considers all these factors and more in setting cleanup standards for Superfund sites. EPA looks at all regulations published to date at the State and federal level. We also check with other health agencies such as ATSDR and we employ health specialist also.

22. Question: "Why was the dike at French Limited built with contaminated soil from Sikes Dumps? Is that not against the Superfund Laws?"

Response: Contaminated soil was not used to build the dike around French Limited.

23. Question: "How many studies have been done on these Superfund Toxic Waste Sites?"

Response: Three.

24. Question: "How much money has been spent on these studies?"

Response: See Part A, comment #21.

25. Question: "Have you sampled the water and sediments in the swamp north and south of Highway 90?"

Response: Yes. Sampling was done as part of the remedial investigation at French.

27. Question: "What position is French Limited on the National Priorities List?"

- and -

Question: "What position is Sikes Site on the National Priorities List?"

Response: The position (rank) of a site on the list is inconsequential. Once a site is on the National Priorities List it is eligible for funding.

C. Additional Verbal Questions asked at the Meeting

28. Question: Why have you not looked at the alternative of relocating residents? That might be more cost effective.

Response: Relocation of residents is considered when their health is immediately threatened or in cases where this is physically necessary to implement a remedy. While French and Sikes represent potential, long term health risks there is no immediate health posed by the sites and the remedies for the sites can be implemented without moving people.

29. Question: Who pays for the guard at Sikes?

Response: Federal funding to the State.

30. Question: Why don't you take the waste offsite by barge or railroad?

Response: Offsite removal was considered at Sikes, the Agency must give preference to remedies conducted on site.

31. Question: Why can't I take my barrels to French?

Response: We don't even want clean trash at French.

32. Question: Why don't you want responsible parties at Sikes?

Response: EPA is very interested in pursuing Potentially Responsible Parties at all Superfund sites and will evaluate any information concerning PRPs.

33. Question: Be clear with the citizens that lab tests of well water can go only so far.

Response (by EPA & TWC): When we tested the water wells it did not appear that contaminants from the sites are contaminating the wells. Further analysis is being conducted by the Texas Department of Health regarding bacteria and sodium. The levels for which we have drinking water standards were not exceeded. Also phalates were found in the samples which can result from pipe or lab. These levels were well below the health advisory. We cannot measure zero although the Agency goal is zero. We have sampled enough wells and have thorough data to show the movement of the groundwater is slow. We do not see any cause for alarm and the contamination is not related to the Superfund sites. At French Limited we are proposing to treat the groundwater. Sikes groundwater contamination will diffuse and restore itself.

Response (by ATSDR): We have reviewed the type of exposure routes from the water wells and provided consultation on the Sikes site. There are 7 homes in the are that use the aquifer and we have recommended that these wells be monitored again.